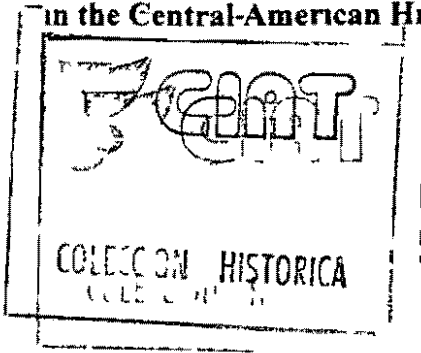


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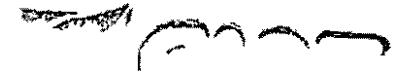
**DIGITAL DATABASE OF THE IV NATIONAL  
AGRICULTURAL CENSUS FOR  
HONDURAS AT MUNICIPIO LEVEL**

**Hector Barreto**  
**Hillsides Program**  
**International Center for Tropical Agriculture**

**Internal Report**  
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**Tegucigalpa, Honduras**  
**Central America**



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## A DIGITAL DATABASE OF THE IV NATIONAL AGRICULTURAL CENSUS FOR HONDURAS AT MUNICIPIO LEVEL

Prepared by Hector J Barreto CIAT- Hillsides Honduras, August 1995

**Background** The IV agricultural census in Honduras was conducted in 1992-1993 by SECPLAN. The previous agricultural census was conducted in 1974 (see information from SECPLAN bulletin)

Data were obtained in digital form but with information stored in tables (ASCII formatted) using same style as the written documents from Division de Censos y Estadísticas (SECPLAN). Data were recorded on tape (approximately 50 megabytes uncompressed) but can easily fit on 5 1/4 disks using pkzip compression. Data were copied on early July 1995 after a period of negotiations of CIAT with the Minister of SECPLAN and the head of the Division de Censos y Estadísticas. Because of confidentiality laws data are aggregated at municipio level but stratified on 13 classes by farm size. Six volumes of information were obtained. The contents of each volume are presented in Table 1.

Table 1 Contents of digital database of IV Agricultural Census Honduras 1993

TOMO I	Tenencia de tierra y características de los productores (TOMO I TBL)
TOMO II	Granos básicos (maíz, frijol, maicillo, arroz, ) (TOMO II TBL)
TOMO III	Cultivos anuales (TOMO III TBL)
TOMO IV	Cultivos permanentes (TOMO IV TBL)
TOMO V	Ganadería (TOMO V TBL)
TOMO VI	Servicios a la Producción tomos A, B, C (TOMO VI A/B/C TBL)

It should be noticed that this database expands on the SECPLAN published documents where data are aggregated at the municipio level but stratified by farm size only at the department level. However, due to limitations in data formatting these data cannot be readily used for analysis which required the investment of 1 week of a programmer's time to produce the current database (some considerations for data formatting and assembly of datasets are discussed in Appendix 1).

**Structure of Data Sets** There are two main databases that represent two distinct levels of aggregation (1 By national-department and 2 By municipio). The entire system comprises around 80 files (approx 20 Megabytes expanded). The file names and file contents are presented in Appendix 2. Each file represents a single category of information (land tenancy, maize production, land use, etc). The stratification levels by farm size presented in Table 2 are repeated for each data file.

Table 2 Stratification levels by farm size, IV Agricultural Census -Honduras - 1993

Code	Stratum
0	Aggregated by Country/Department or Municipio
1	De menos de 1 Ha
2	De 1 a menos de 2 Ha
3	De 2 a menos de 3 Ha
4	De 3 a menos de 5 Ha
5	De 5 a menos de 10 Ha
6	De 10 a menos de 20 Ha
7	De 20 a menos de 50 Ha
8	De 50 a menos de 100 Ha
9	De 100 a menos de 200 Ha
10	De 200 a menos de 500 Ha
11	De 500 a menos de 1000 Ha
12	De 1000 a menos de 2500 Ha
13	De 2500 y mas Ha

Each data line contains the following code in the first 11 characters: Department code (columns 1-2), Municipio code (columns 4-5), stratification level (columns 7-8) and, number of variables that follow (columns 10-11). Each variable that follows is right justified in a field of 12 columns with 1 decimal (12.1). The number of variables in each file ranges from 4 to 36.

Department and municipio codes used are presented in Appendix 3. Variable names up to 8 characters in length were based on a simple system developed for all volumes. These variable names may be placed as headers into the final document and can be easily modified (file names with extension \*VAR).

**Acknowledgments** These data were provided to the project by the Division de Censos y Estadísticas through Ing. Gerardo Reyes Nuñez based on a formal request made to the Minister of SECPLAN. Their cooperation in obtaining a digital version of the data is gratefully acknowledged. Development of the naming system for variables and preparation of item descriptions was conducted in collaboration with Dr. Roduel Rodríguez and Ing. Fernando Mendoza (IFPRI-Honduras).

## Appendix 1

**Structure of Database provided by SECPLAN** All tables (\* TBL files) for a given category of information are stored sequentially with the following aggregate levels 1) Country (HONDURAS) 2) Department level (e.g. ATLANTIDA) and 3) Municipio data nested (e.g. LA CEIBA ESPARTA, etc) stratified by 12 farm sizes

Complete information for a each theme is comprised of one or more tables (e.g. 2 in land tenancy, 3 for maize, 1 for rice, etc), therefore for a given category (e.g. maize production) all data can be obtained by merging tables to the right. For example complete information for maize production requires merging of three tables (Cuadros 2, 5, and 8 in TOMOII TBL)

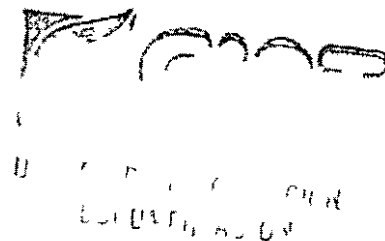
Several characteristics must be taken into account on stream-processing of these data and assemblage of the required SAS data sets for further processing. Multiple crop data are stored in a single file volume. For example, volume II contains data for the following crops and each crop contains data in separate tables

Crop	Tables
Maiz	2, 5 and 8
Frijol	11,14 and 17
Arroz	20
Soya	26
Maicillo	23
Sorgo forrajero	29

Not all municipios have information on a particular class (e.g. postera production). In addition for some municipios not all cuadros are present for the country (e.g. maize postera, Cuadro 8). Table headers for a single category of information might have different number of lines (e.g. Tomo I land tenancy). There are two types of missing data on each table: a) data not existent (e.g. "-" character), and b) rounded numbers that because of their magnitude would appear as zero with the level of precision of each category (up to 1 decimal point) represented by the character "\*". The latter appears only in volumes with crop production data (e.g. basic grains) (personal communication DCS, Honduras). Units of thousands are formatted with commas. Headers are not repeated for each municipio with up to 2 municipios presented on a given table (sometimes only one). Not all data categories contain the entire stratification (e.g. cafe, cacao, cardamomo in Tomo IV), although it is not clear why.

**Preparation of SAS data sets** The goal was to process these data into files capable of being used to produce statistics at different level of stratification (e.g. all farms less than 5 ha) using SAS. All programming was done in Turbo Pascal v7.0. Pascal source code is included in Appendix 4). The process described here was used to assemble the 80 production data sets that make up the digital database.

- 1) Extract data for all required tables for the entire country by copying the required section from the master file (\* TBL) An ASCII editor capable of reading large files and output smaller sections was required as master files contain up to 10 megabytes each
- 2) Using the individual tables (cuadros) for a given category a preliminary cross-checking routine was used to verify if all levels of information were present and determine if merging of tables was required
- 3) Each table was "cleaned" by removing the headers and replacing ' - ' by a decimal point \* characters were substituted by 0
- 4) Aggregate information was separated in two main databases 1) country/department and 2) municipio level The last letter of each file name denotes D and M codes for departamento and municipio data, respectively
- 5) When tables were merged side by side only the first stratification of the first table was maintained
- 6) For the missing municipios dummy sets were inserted at the appropriate sequential position relative to the alphabetical order within the complete set (only volumes that required merging of tables)
- 7) Further processing of the information included replacing municipio/departamento names for codes using the same codes as 1974 Census (Appendix 2) and replacing text categories for farm size codes (0-13)
- 8) A final pass was done to adjust formatting of all numbers and variable names for the final storage files (\* 004) This step also allowed storage in binary form (4 byte reals for random-access) in files for use in other applications (e.g mapping)



APPENDIX 2 HONCNA93 - CNA93A2 XLS08/31/95

HONCNA93 A DIGITAL DATABASE FOR THE IV CENSO NACIONAL AGROPECUARIO HONDURAS 1992 1993		
DEPARTMENT DATABASE (D)		
FILENAME	LEVEL	CONTENTS
T1CJD	D	TOMO I CONDICION JURIDICA DE LOS PRODUCTORES POR DEPARTAMENTO
T1TTD	D	TOMO I TENENCIA DE TIERRA POR DEPARTAMENTO
T1UTD	D	TOMO I USO DE TIERRA POR DEPARTAMENTO
T2ARD	D	TOMO II ARROZ POR DEPARTAMENTO
T2FRD	D	TOMO II FRIJOL POR DEPARTAMENTO
T2MAD	D	TOMO II MAIZ POR DEPARTAMENTO
T2MCD	D	TOMO II MAICILLO POR DEPARTAMENTO
T2SFD	D	TOMO II SORGO FORRAJERO POR DEPARTAMENTO
T2SOD	D	TOMO II SOYA POR DEPARTAMENTO
T3APZ09D	D	TOMO III AYOTE PIPIAN ZAPALLO POR DEPARTAMENTO
T3LAP06D	D	TOMO III LECHUGA APIO PEREJIL POR DEPARTAMENTO
T3PCA02D	D	TOMO III PAPA CEBOLLA AJO POR MUNICIPIO
T3RCB05D	D	TOMO III REPOLLO COLFLOR BROCOLI POR DEPARTAMENTO
T3SMP08D	D	TOMO III SANDIA MELON PEPINO POR DEPARTAMENTO
T3TAA01D	D	TOMO III TABACO ALGODON AJONJOLI POR DEPARTAMENTO
T3TCB07D	D	TOMO III TOMATE CHILE BERENJENA POR DEPARTAMENTO
T3YCM03D	D	TOMO III YUCA CAMOTE MALANGA POR DEPARTAMENTO
T3ZRR04D	D	TOMO III ZANAHORIA REMOLACHA RABANO POR DEPARTAMENTO
T4AMM07D	D	TOMO IV CULTIVOS PERMANENTES (AGUACATE MANGO MARANON) POR DEPARTAMENTO
T4BPO03D	D	TOMO IV CULTIVOS PERMANENTES (BANANO PLATANO OTROS GUINEOS) POR DEPARTAMENTO
T4CCC01D	D	TOMO IV CULTIVOS PERMANENTES (CAFE CACAO CARDAMOMO) POR DEPARTAMENTO
T4CPJ02D	D	TOMO IV CULTIVOS PERMANENTES (CANA PALMA AF JUNCO) POR DEPARTAMENTO
T4MOM05D	D	TOMO IV CULTIVOS PERMANENTES (MANDARINA OTROS CITRICOS MARACUYA) POR DEPARTAMENTO
T4MUD08D	D	TOMO IV CULTIVOS PERMANENTES (MANZANA UVA DURAZNO) POR DEPARTAMENTO
T4NTL04D	D	TOMO IV CULTIVOS PERMANENTES (NARANJA TORONJA LIMON) POR DEPARTAMENTO
T4PCP06D	D	TOMO IV CULTIVOS PERMANENTES (PINA COCO PAPAYA) POR DEPARTAMENTO
T4PPA09D	D	TOMO IV CULTIVOS PERMANENTES (PIMIENTA NEGRA PIMIENTA GORDA ACHIOTE) POR DEPARTAMENTO
T5GAD	D	TOMO V GANADERIA (GANADO AVES DE CORRAL) POR DEPARTAMENTO
T5GB01D	D	TOMO V GANADERIA (GANADO BOVINO) POR DEPARTAMENTO
T5GB02D	D	TOMO V GANADERIA (GANADO BOVINO) POR PROPOSITO PRINCIPAL POR DEPARTAMENTO
T5GCD	D	TOMO V GANADERIA (GANADO CAPRINO) POR DEPARTAMENTO
T5GED	D	TOMO V GANADERIA (GANADO EQUINO) POR DEPARTAMENTO
T5GPD	D	TOMO V GANADERIA (GANADO PORCINO) POR DEPARTAMENTO
T5GZD	D	TOMO V GANADERIA (GANADO CAMARONES Y O PECES) POR DEPARTAMENTO
T6AST02D	D	TOMO VIa TIPO DE ASISTENCIA TECNICA POR DEPARTAMENTO
T6CON09D	D	TOMO VIb NUMERO DE EXPLOTACIONES CON CONSERVACION DE SUELOS (DEPTO)
T6CRE01D	D	TOMO VIa DESTINO Y UTILIZACION DEL CREDITO POR DEPARTAMENTO
T6GBI05D	D	TOMO VIa GANADO BOVINO POR UTILIZACION DE INSUMOS POR DEPARTAMENTO
T6GPI06D	D	TOMO VIa GANADO PORCINO POR UTILIZACION DE INSUMOS POR DEPARTAMENTO

APPENDIX 2 HONCNA93 - CNA93A2 XLS08/31/95

T6RIE07D	D	TOMO Vlb SUPERFICIE AGRICOLA POR UTILIZACION DE SISTEMA DE RIEGO (DEPTO)
T6TRA13D	D	TOMO Vlc TIPO DE TRACCION UTILIZADA
T6UTI04D	D	TOMO Via UTILIZACION DE INSUMOS POR DEPARTAMENTO

HONCNA93 A DIGITAL DATABASE FOR THE IV CENSO NACIONAL AGROPECUARIO HONDURAS 1992 1993		
MINICIPIO DATABASE (M)		
FILENAME	LEVEL	CONTENTS
T1CJM	M	TOMO I CONDICION JURIDICA DE LOS PRODUCTORES POR MUNICIPIO
T1TTM	M	TOMO I TENENCIA DE TIERRA POR MUNICIPIO
T1UTM	M	TOMO I USO DE TIERRA POR MUNICIPIO
T2ARM	M	TOMO II ARROZ POR MUNICIPIO
T2FRM	M	TOMO II FRIJOL POR MUNICIPIO
T2MAM	M	TOMO II MAIZ POR MUNICIPIO
T2MCM	M	TOMO II MAICILLO POR MUNICIPIO
T2SFM	M	TOMO II SORGO FORRAJERO POR MUNICIPIO
T2SOM	M	TOMO II SOYA POR MUNICIPIO
T3APZ09M	M	TOMO III AYOTE PIPIAN ZAPALLO POR MUNICIPIO
T3LAP06M	M	TOMO III LECHUGA APIO PEREJIL POR MUNICIPIO
T3PCA02M	M	TOMO III PAPA CEBOLLA AJO POR DEPARTAMENTO
T3RCB05M	M	TOMO III REPOLLO COLFLOR BROCOLI POR MUNICIPIO
T3SMP08M	M	TOMO III SANDIA MELON PEPINO POR MUNICIPIO
T3TAA01M	M	TOMO III TABACO ALGODON AJONJOLI POR MUNICIPIO
T3TCB07M	M	TOMO III TOMATE CHILE BERENJENA POR MUNICIPIO
T3YCM03M	M	TOMO III YUCA CAMOTE MALANGA POR MUNICIPIO
T3ZRR04M	M	TOMO III ZANAHORIA REMOLACHA RABANO POR MUNICIPIO
T4AMM07M	M	TOMO IV CULTIVOS PERMANENTES (AGUACATE MANGO MARANON) POR MUNICIPIO
T4BPO03M	M	TOMO IV CULTIVOS PERMANENTES (BANANO PLATANO OTROS GUINEOS) POR MUNICIPIO
T4CCC01M	M	TOMO IV CULTIVOS PERMANENTES (CAFE CACAO CARDAMOMO) POR MUNICIPIO
T4MOM05M	M	TOMO IV CULTIVOS PERMANENTES (MANDARINA OTROS CITRICOS MARACUYA) POR MUNICIPIO
T4MUD08M	M	TOMO IV CULTIVOS PERMANENTES (MANZANA UVA DURAZNO) POR MUNICIPIO
T4NTL04M	M	TOMO IV CULTIVOS PERMANENTES (NARANJA TORONJA LIMON) POR MUNICIPIO
T4PCP06M	M	TOMO IV CULTIVOS PERMANENTES (PINA COCO PAPAYA) POR MUNICIPIO
T4PPA09M	M	TOMO IV CULTIVOS PERMANENTES (PIMIENTA NEGRA PIMIENTA GORDA ACHIOTE) POR MUNICIPIO
T5GAM	M	TOMO V GANADERIA (GANADO AVES DE CORRAL) POR MUNICIPIO
T5GB01M	M	TOMO V GANADERIA (GANADO BOVINO) POR MUNICIPIO
T5GB02M	M	TOMO V GANADERIA (GANADO BOVINO) POR PROPOSITO PRINCIPAL POR MUNICIPIO
T5GCM	M	TOMO V GANADERIA (GANADO CAPRINO) POR MUNICIPIO
T5GEM	M	TOMO V GANADERIA (GANADO EQUINO) POR MUNICIPIO
T5GPM	M	TOMO V GANADERIA (GANADO PORCINO) POR MUNICIPIO
T5GZM	M	TOMO V GANADERIA (GANADO CAMARONES Y/O PECES) POR MUNICIPIO
T6AST02M	M	TOMO VIa TIPO DE ASISTENCIA TECNICA POR MUNICIPIO
T6CON09M	M	TOMO VIb NUMERO DE EXPLOTACIONES CON CONSERVACION DE SUELOS (MUNPIO)
T6CRE01M	M	TOMO VIa DESTINO Y UTILIZACION DEL CREDITO POR MUNICIPIO
T6GBI05M	M	TOMO VIa GANADO BOVINO POR UTILIZACION DE INSUMOS POR MUNICIPIO
T6TRA13M	M	TOMO VIc TIPO DE TRACCION UTILIZADA POR MUNICIPIO
T6UTI04M	M	TOMO VIa UTILIZACION DE INSUMOS POR MUNICIPIO



Appendix 3

DIGITAL DATABASE OF THE IV NATIONAL AGRICULTURAL CENSUS FOR HONDURAS

DEPARTMENT AND MUNICIPIO CODES

DEPTCODE	MUNICODE	DEPARTAMENTO	MUNICIPIO
0	0	HONDURAS	HONDURAS
1	1	ATLANTIDA	LA CEIBA
1	2	ATLANTIDA	EL PORVENIR
1	3	ATLANTIDA	ESPARTA
1	4	ATLANTIDA	JUTIAPA
1	5	ATLANTIDA	LA MASICA
1	6	ATLANTIDA	SAN FRANCISCO
1	7	ATLANTIDA	TELA
1	8	ATLANTIDA	ARIZONA
2	1	COLON	TRUJILLO
2	2	COLON	BALFATE
2	3	COLON	IRIONA
2	4	COLON	LIMON
2	7	COLON	SABA
2	5	COLON	SANTA FE
2	6	COLON	SANTA ROSA DE AGUAN
2	8	COLON	SONAGUERA
2	9	COLON	TOCOA
2	10	COLON	BONITO ORIENTAL
3	1	COMAYAGUA	COMAYAGUA
3	2	COMAYAGUA	AJUTERIQUE
3	3	COMAYAGUA	EL ROSARIO
3	4	COMAYAGUA	ESQUIAS
3	5	COMAYAGUA	HUMUYA
3	6	COMAYAGUA	LA LIBERTAD
3	7	COMAYAGUA	LAMANI
3	8	COMAYAGUA	LA TRINIDAD
3	9	COMAYAGUA	LEJAMANI
3	10	COMAYAGUA	MEAMBAR
3	11	COMAYAGUA	MINAS DE ORO
3	12	COMAYAGUA	OJOS DE AGUA
3	13	COMAYAGUA	SAN JERONIMO
3	14	COMAYAGUA	SAN JOSE DE COMAYAGUA
3	15	COMAYAGUA	SAN JOSE DEL POTRERO
3	16	COMAYAGUA	SAN LUIS
3	17	COMAYAGUA	SAN SEBASTIAN
3	18	COMAYAGUA	SIGUATEPEQUE
3	19	COMAYAGUA	VILLA DE SAN ANTONIO
3	21	COMAYAGUA	LAS LAJAS
3	20	COMAYAGUA	TAULABE
4	1	COPAN	SANTA ROSA DE COPAN

DEPTCODE	MUNICODE	DEPARTAMENTO	MUNICIPIO
4	2	COPAN	CABAÑAS
4	3	COPAN	CONCEPCION
4	4	COPAN	COPAN RUINAS
4	5	COPAN	CORQUIN
4	6	COPAN	CUCUYAGUA
4	7	COPAN	DOLORES
4	8	COPAN	DULCE NOMBRE
4	9	COPAN	EL PARAISO
4	10	COPAN	FLORIDA
4	11	COPAN	LA JIGUA
4	12	COPAN	LA UNION
4	13	COPAN	NUEVA ARCADIA
4	14	COPAN	SAN AGUSTIN
4	15	COPAN	SAN ANTONIO
4	16	COPAN	SAN JERONIMO
4	17	COPAN	SAN JOSE
4	18	COPAN	SAN JUAN DE OPOA
4	19	COPAN	SAN NICOLAS
4	20	COPAN	SAN PEDRO
4	21	COPAN	SANTA RITA
4	22	COPAN	TRINIDAD DE COPAN
4	23	COPAN	VERACRUZ
5	1	CORTES	SAN PEDRO SULA
5	2	CORTES	CHOLOMA
5	3	CORTES	OMOA
5	4	CORTES	PIMIENTA
5	5	CORTES	POTRERILLOS
5	6	CORTES	PUERTO CORTES
5	7	CORTES	SAN ANTONIO DE CORTES
5	8	CORTES	SAN FRANCISCO DE YOJOA
5	9	CORTES	SAN MANUEL
5	10	CORTES	SANTA CRUZ DE YOJOA
5	11	CORTES	VILLANUEVA
5	12	CORTES	LA LIMA
6	1	CHOLUTECA	CHOLUTECA
6	2	CHOLUTECA	APACILAGUA
6	3	CHOLUTECA	CONCEPCION DE MARIA
6	4	CHOLUTECA	DUYURE
6	5	CHOLUTECA	EL CORPUS
6	6	CHOLUTECA	EL TRIUNFO
6	7	CHOLUTECA	MARCOVIA
6	8	CHOLUTECA	MOROLICA
6	9	CHOLUTECA	NAMASIGUE
6	10	CHOLUTECA	OROCUINA
6	11	CHOLUTECA	PESPIRE
6	12	CHOLUTECA	SAN ANTONIO DE FLORES
6	13	CHOLUTECA	SAN ISIDRO
6	14	CHOLUTECA	SAN JOSE

DEPTCODE	MUNICODE	DEPARTAMENTO	MUNICIPIO
6	15	CHOLUTECA	SAN MARCOS DE COLON
6	16	CHOLUTECA	SANTA ANA DE YUSGUARE
7	1	EL PARAISO	YUSCARAN
7	2	EL PARAISO	ALAUCA
7	3	EL PARAISO	DANLI
7	4	EL PARAISO	EL PARAISO
7	5	EL PARAISO	GUINOPE
7	6	EL PARAISO	JACALEAPA
7	7	EL PARAISO	LIURE
7	8	EL PARAISO	MOROCELI
7	9	EL PARAISO	OROPOLI
7	10	EL PARAISO	POTRERILLOS
7	11	EL PARAISO	SAN ANTONIO DE FLORES
7	12	EL PARAISO	SAN LUCAS
7	13	EL PARAISO	SAN MATIAS
7	14	EL PARAISO	SOLEDAD
7	15	EL PARAISO	TEUPASENTI
7	16	EL PARAISO	TEXIGUAT
7	17	EL PARAISO	VADO ANCHO
7	18	EL PARAISO	YAUUYUPE
7	19	EL PARAISO	TROJES
8	1	FRANCISCO MORAZAN	DISTRITO CENTRAL
8	2	FRANCISCO MORAZAN	ALUBAREN
8	3	FRANCISCO MORAZAN	CEDROS
8	4	FRANCISCO MORAZAN	CURAREN
8	5	FRANCISCO MORAZAN	EL PORVENIR
8	6	FRANCISCO MORAZAN	GUAIMACA
8	7	FRANCISCO MORAZAN	LA LIBERTAD
8	8	FRANCISCO MORAZAN	LA VENTA
8	9	FRANCISCO MORAZAN	LEPATERIQUE
8	10	FRANCISCO MORAZAN	MARAITA
8	11	FRANCISCO MORAZAN	MARALE
8	12	FRANCISCO MORAZAN	NUEVA ARMENIA
8	13	FRANCISCO MORAZAN	OJOJONA
8	14	FRANCISCO MORAZAN	ORICA
8	15	FRANCISCO MORAZAN	REITOCA
8	16	FRANCISCO MORAZAN	SABANA GRANDE
8	17	FRANCISCO MORAZAN	SAN ANTONIO DE ORIENTE
8	18	FRANCISCO MORAZAN	SAN BUENAVENTURA
8	19	FRANCISCO MORAZAN	SAN IGNACIO
8	20	FRANCISCO MORAZAN	SAN JUAN DE FLORES
8	21	FRANCISCO MORAZAN	SAN MIGUELITO
8	22	FRANCISCO MORAZAN	SANTA ANA
8	23	FRANCISCO MORAZAN	SANTA LUCIA
8	24	FRANCISCO MORAZAN	TALANGA
8	25	FRANCISCO MORAZAN	TATUMBLA
8	26	FRANCISCO MORAZAN	VALLE DE ANGELES
8	27	FRANCISCO MORAZAN	VILLA DE SAN FRANCISCO

DEPTCODE	MUNICODE	DEPARTAMENTO	MUNICIPIO
8	28	FRANCISCO MORAZAN	VALLECILLO
9	1	GRACIAS A DIOS	PUERTO LEMPIRA
9	2	GRACIAS A DIOS	BRUS LAGUNA
10	1	INTIBUCA	LA ESPERANZA
10	2	INTIBUCA	CAMASCA
10	3	INTIBUCA	COLOMONCAGUA
10	4	INTIBUCA	CONCEPCION
10	5	INTIBUCA	DOLORES
10	6	INTIBUCA	INTIBUCA
10	7	INTIBUCA	JESUS DE OTORO
10	8	INTIBUCA	MAGDALENA
10	9	INTIBUCA	MASAGUARA
10	10	INTIBUCA	SAN ANTONIO
10	11	INTIBUCA	SAN ISIDRO
10	12	INTIBUCA	SAN JUAN
10	13	INTIBUCA	SAN MARCOS DE SIERRA
10	14	INTIBUCA	SAN MIGUELITO
10	15	INTIBUCA	SANTA LUCIA
10	16	INTIBUCA	YAMARANGUILA
11	1	ISLAS DE LA BAHIA	ROATAN
11	2	ISLAS DE LA BAHIA	GUANAJA
11	3	ISLAS DE LA BAHIA	JOSE SANTOS GUARDIOLA
11	4	ISLAS DE LA BAHIA	UTILA
12	1	LA PAZ	LA PAZ
12	2	LA PAZ	AGUANQUETERIQUE
12	3	LA PAZ	CABAÑAS
12	4	LA PAZ	CANE
12	5	LA PAZ	CHINACLA
12	6	LA PAZ	GUAJQUIRO
12	7	LA PAZ	LAUTERIQUE
12	8	LA PAZ	MARCALA
12	9	LA PAZ	MERCEDES DE ORIENTE
12	10	LA PAZ	OPATORO
12	11	LA PAZ	SAN ANTONIO DEL NORTE
12	12	LA PAZ	SAN JOSE
12	13	LA PAZ	SAN JUAN
12	14	LA PAZ	SAN PEDRO DE TUTULE
12	15	LA PAZ	SANTA ANA
12	16	LA PAZ	SANTA ELENA
12	17	LA PAZ	SANTA MARIA
12	18	LA PAZ	SANTIAGO DE PURINGLA
12	19	LA PAZ	YARULA
13	1	LEMPIRA	GRACIAS
13	2	LEMPIRA	BELEN
13	3	LEMPIRA	CANDELARIA
13	4	LEMPIRA	COLOLACA
13	5	LEMPIRA	ERANDIQUE
13	6	LEMPIRA	GUALCINCE

DEPTCODE	MUNICODE	DEPARTAMENTO	MUNICIPIO
13	7	LEMPIRA	GUARITA
13	8	LEMPIRA	LA CAMPA
13	9	LEMPIRA	LA IGUALA
13	10	LEMPIRA	LAS FLORES
13	11	LEMPIRA	LA UNION
13	12	LEMPIRA	LA VIRTUD
13	13	LEMPIRA	LEPAERA
13	14	LEMPIRA	MAPULACA
13	15	LEMPIRA	PIRAERA
13	16	LEMPIRA	SAN ANDRES
13	17	LEMPIRA	SAN FRANCISCO
13	18	LEMPIRA	SAN JUAN GUARITA
13	19	LEMPIRA	SAN MANUEL COLOHETE
13	20	LEMPIRA	SAN RAFAEL
13	21	LEMPIRA	SAN SEBASTIAN
13	22	LEMPIRA	SANTA CRUZ
13	23	LEMPIRA	TALGUA
13	24	LEMPIRA	TAMBLA
13	25	LEMPIRA	TOMALA
13	26	LEMPIRA	VALLADOLID
13	27	LEMPIRA	VIRGINIA
14	1	OCOTEPEQUE	OCOTEPEQUE
14	2	OCOTEPEQUE	BELEN GUALCHO
14	3	OCOTEPEQUE	CONCEPCION
14	4	OCOTEPEQUE	DOLORES MERENDON
14	5	OCOTEPEQUE	FRATERNIDAD
14	6	OCOTEPEQUE	LA ENCARNACION
14	7	OCOTEPEQUE	LA LABOR
14	8	OCOTEPEQUE	LUCERNA
14	9	OCOTEPEQUE	MERCEDES
14	10	OCOTEPEQUE	SAN FERNANDO
14	11	OCOTEPEQUE	SAN FRANCISCO DEL VALLE
14	12	OCOTEPEQUE	SAN JORGE
14	13	OCOTEPEQUE	SAN MARCOS
14	14	OCOTEPEQUE	SANTA FE
14	15	OCOTEPEQUE	SENSENTI
14	16	OCOTEPEQUE	SINUAPA
15	1	OLANCHO	JUTICALPA
15	2	OLANCHO	CAMPAMENTO
15	3	OLANCHO	CATACAMAS
15	4	OLANCHO	CONCORDIA
15	5	OLANCHO	DULCE NOMBRE DE CULMI
15	6	OLANCHO	EL ROSARIO
15	7	OLANCHO	ESQUIPULAS DEL NORTE
15	8	OLANCHO	GUALACO
15	9	OLANCHO	GUARIZAMA
15	10	OLANCHO	GUATA
15	11	OLANCHO	GUAYAPE

DEPTCODE	MUNICODE	DEPARTAMENTO	MUNICIPIO
15	12	OLANCHO	JANO
15	13	OLANCHO	LA UNION
15	14	OLANCHO	MANGULILE
15	15	OLANCHO	MANTO
15	16	OLANCHO	SALAMA
15	17	OLANCHO	SAN ESTEBAN
15	18	OLANCHO	SAN FRANCISCO DE BECERRA
15	19	OLANCHO	SAN FRANCISCO DE LA PAZ
15	20	OLANCHO	SANTA MARIA DEL REAL
15	21	OLANCHO	SILCA
15	22	OLANCHO	YOCON
15	23	OLANCHO	PATUCA
16	1	SANTA BARBARA	SANTA BARBARA
16	2	SANTA BARBARA	ARADA
16	3	SANTA BARBARA	ATIMA
16	4	SANTA BARBARA	AZACUALPA
16	5	SANTA BARBARA	CEGUACA
16	6	SANTA BARBARA	CONCEPCION DEL NORTE
16	7	SANTA BARBARA	CONCEPCION DEL SUR
16	8	SANTA BARBARA	CHINDA
16	9	SANTA BARBARA	EL NISPERO
16	10	SANTA BARBARA	GUALALA
16	11	SANTA BARBARA	ILAMA
16	12	SANTA BARBARA	MACUELIZO
16	13	SANTA BARBARA	NARANJITO
16	14	SANTA BARBARA	NUEVO CELILAC
16	15	SANTA BARBARA	PETOA
16	16	SANTA BARBARA	PROTECCION
16	17	SANTA BARBARA	QUIMISTAN
16	18	SANTA BARBARA	SAN FRANCISCO DE OJUERA
16	19	SANTA BARBARA	SAN JOSE DE COLINAS
16	20	SANTA BARBARA	SAN LUIS
16	21	SANTA BARBARA	SAN MARCOS
16	22	SANTA BARBARA	SAN NICOLAS
16	23	SANTA BARBARA	SAN PEDRO ZACAPA
16	25	SANTA BARBARA	SAN VICENTE CENTENARIO
16	24	SANTA BARBARA	SANTA RITA
16	26	SANTA BARBARA	TRINIDAD
16	27	SANTA BARBARA	LAS VEGAS
17	1	VALLE	NACAOME
17	2	VALLE	ALIANZA
17	3	VALLE	AMAPALA
17	4	VALLE	ARAMECINA
17	5	VALLE	CARIDAD
17	6	VALLE	GOASCORAN
17	7	VALLE	LANGUE
17	8	VALLE	SAN FRANCISCO DE CORAY
17	9	VALLE	SAN LORENZO

DEPTCODE	MUNICODE	DEPARTAMENTO	MUNICIPIO
18	1	YORO	YORO
18	2	YORO	ARENAL
18	3	YORO	EL NEGRITO
18	4	YORO	EL PROGRESO
18	5	YORO	JOCON
18	6	YORO	MORAZAN
18	7	YORO	OLANCHITO
18	8	YORO	SANTA RITA
18	9	YORO	SULACO
18	10	YORO	VICTORIA
18	11	YORO	YORITO

APPENDIX 4

Program CNA31\_CONVERT\_TOOLS

{ The routines included here allow conversion of the table format files  
 from 2 column data into a flat file (Honduras) into SAS format  
 data files to be used in further aggregation or statistical analysis

Use the same with a table name to output pages  
 of CNA31 data publication for a specific type of data (e.g.  
 national production)

2 All headers and empty lines are removed the resulting file contains  
 the codes for level of aggregation national departmental municipal

3 Specification of data file is verified and output sent to file

By H Barreto  
 Proyecto "L.A." Lade sa  
 Apdo Postal 1410 Tegucigalpa Honduras  
 ciatha @expreso.com  
 }

Uses Cr DOS

Const  
 MaxMuni 292 { 291 municipalities for country aggregation on Honduras }  
 MaxCharStr 600 { max length of a given text line }  
 Nodata 999.00

Type

```
str200 string(200)
  str2 string(2)
arr yofstr200 array y[1:15] of str200
LDtype array(1:MaxCharStr) of char { a data stream line of text file }
Str20 string(20)
Str25 string(25)
HondDtype rexxrd { global (heap) array for table code of dept/muni }
  deptcode real
  municode real
  Departamento str20
  Municipio str25
  ReadFlag boolean
nd
ArrayOfHondDtype array(1:MaxMuni) of HondDtype
DataLineType array(0:128) of Real
```

Var

```
HondP Arr yofHondDtype { table codes for municipio and department data }
TempData HondDtype
x arrayofstr200
m0 arr y[1:MaxMuni] of String(5)
m1 m2 m3 array(1:MaxMuni) of String(25)
LD LDtype
DataLine DataLineType
```

Funcn on Trim(str string) string

{ Removes leading and trailing blank spaces from string }

Var

Length integer

Begin { Trim }

While (str[1] = ' ') and (Length(str) > 0) Do Delete(str 1 1) { leading blanks }



```

Length Length(str)
While (str[Length] = ' ') and (Length > 0) Do { strip blanks }
  Begin
    Delete(str Length 1)
    Length Length(str)
  End
Tr = str
End { Tr a }

Procedure CountTablesInFile (InputFile OutputFile string)

{ outputs the cuadro number along with page number from a .tbl file }

Var
  f1 f2 text
  t string(100)
  pageno integer

Begin
  pageno = 0
  Assign(f2 InputFile)
  Reset(f2)

  Assign(f1 OutputFile)
  Rewrite(f1)
  While not eof(f2) Do
    Begin
      Readln(f2 x) { start of current tbl }
      x = trim(x)

      If Ord(Copy(x 1 1)) = 13 then
        Begin
          pageno = pageno + 1
        End

      If Copy(x 1 4) = 'CUADRO' then
        Begin
          writeln(f1 page pageno 5 x)
        End
      End

      writeln(f1 totalpages pageno)
    End
  Close(f2)
  Close(f1)
End

Function FormatCode(Code real) Str2

{ formats the numeric code into a 2 char string }

Var
  CodeStr Str2

Begin
  str(Code 2 0 CodeStr)
  If code < 10 then CodeStr[1] = '0'
  FormatCode = CodeStr
End

Function GetMuniCode(Var Name string DeptCode real Var TempData RecordType) Boolean

{ uses global heap array for departments and municipios which must be read prior to use
  If flag READINGMUNICIPIO is true then search is done municipio field If false
  search is performed in the Departamento field }

Var

```

```

found boolean
i integer

Begin
  For i := 1 to length(Name) Do Name[i] := uppercase(Name[i])
  Found := false
  i := 1
  While Not Found and (i <= MaxNum) Do
    Begin
      If (Name = HomDP [i].Name) and (DeptCode = HomDP [i].DeptCode) then
        Begin
          Found := true
          HomDP [i].R := true
          TempDat := HomDP [i]
        End
      i := i + 1
    End
  End
  GetManCode := Found
End

```

```

Function GetDeptCode(Var Name: string; Var DeptCode: boolean)

```

```

{ Uses global array }
Var
  found boolean
  i integer

Begin
  For i := 1 to length(Name) Do Name[i] := uppercase(Name[i])
  Found := false
  i := 1
  While Not Found and (i <= MaxNum) Do
    Begin
      If (Name = HomDP [i].Departamento) then { use global array }
        Begin
          found := true
          DeptCode := HomDP [i].DeptCode
        End
      i := i + 1
    End
  End
  GetDeptCode := found
End

```

```

Procedure ExtractDeptDat (InputFile: OutputDeptFile; string; IncludeCoding: boolean)
{ extracts from clean file the data for national departments }

```

```

Var
  i: integer
  f1, f2: text
  xacr, empstr: string
  x: array [1..14] of string
  suflieg: boolean
  Currentcode: real
  CodeStr: string

```

```

Procedure OutData

```

```

  Var i: integer
  Begin
    For i := 1 to 14 Do WriteLn(f2, x[i])
  End

```

```

Procedure GetData(Var fir: line; string)

```

```

  Var i: integer
  Begin
    x[i] := fir;
    For i := 2 to 14 Do ReadLn(f1, x[i])
  End

```

```

Begin
  Write n( Extracting department data for Inputfile )
  Assign(f1 InputFile)
  Reset(f1)

  Assign(f2 OutputdeptFile)
  Rewrite(f2)
  While not Eof(f1) Do
    Begin
      Readln(f1 xstr) [ start of current table ]
      If Copy(xstr 17 1) then ( FOUND A DEPARTMENT )
        Begin
          emp Copy(xstr 1 45)
          emp_c trim(empstr)
          If Not GetDeptCode(tempstr) Then Begin Write n( emp_c NOT FOUND ) End
          CodeStr FormatCode(currentCode)
          MunFlag false
          GetData(xstr)
          If IncludeCoding Then
            CodeStr Copy(xstr 1 45)
          Else xstr
          OutData
        End
      End
    End
  End
  Close(f1)
  Close(f2)
End

```

```

Procedure ExtractMuniData(InputFile OutputDeptFile string IncludeCoding boolean)

```

```

( extracts from clean file the data for municipio adding the code )

```

```

Var
  i integer

  f1 f2 text
  xstr tempstr string
  x array[1..14] of string
  munflag boolean
  Currentcode eq1
  DCodeStr str2
  MCodeStr str2

  Procedure OutData
    Var i integer
    Begin
      For i 1 to 14 Do Write ln(f2 x[i])
    End

  Procedure GetData(Var firstline string)
    Var i integer
    Begin
      x[1] firstline
      For i 2 to 14 Do Readln(f1 x[i])
    End

Begin
  Write n( Extracting municipio data for Inputfile )
  Assign(f1 InputFile)
  Reset(f1)

  Assign(f2 OutputdeptFile)
  Rewrite(f2)

  While not Eof(f1) Do

```

```

Begin
  Readln(f1 xstr) { start of current table }

  If copy(xstr 17 1) then { FOUND A DEPARTMENT GET CURRENT CODE }
  Begin
    empstr Copy(xstr 45)
    empstr trim(empstr)
    Not GetDept ode emp Current Code) then Begin WriteLn('NOT FOUND') ha End
    DCodeStr Format('Code: current ode)
  End

  { IF MUNICIPALITY DATA ADD CURRENT CODES FOR DEPT AND MUNI }
  If (copy(xstr 19 1) ) and (copy(xstr 17 1) ) then
  Begin
    tempstr Copy(xstr 1 45)
    empstr trim(tempstr)
    If Not ContainsCode( empstr CurrentCode TempData) then Begin WriteLn('NOT FOUND') ha End
    MCodeStr Format('Code: Tempdata MuniCode)
    GetDept (xstr 1
    If No CodeCoding then
      [1] DCodeStr MCodeStr Copy(xstr 6 length(xstr))
    Else xstr
    OutData
  End
  End
  Co e 1)
  Co e 2)
End

Procedure anTableTOMOI(InputFile OutputFile string nlineskip integer)
  { remove headers and empty lines for text file s containing a single table
  lines to skip refers to the number of lines after chr(12) until end of table header }

  Var
    i integ
    f1 f2 text
    xstr temp string

  Begin
    WriteLn( Cleaning InputFile )
    Assign(f1 InputFile)
    Reset(f1)

    Assign(f2 OutputFile)
    Rewrite(f2)

    While not Eof(f1) Do
      Begin
        Readln(f1 xstr) { start of current table }
        { xstr trim(xstr) }

        If Ord(Copy(xstr 1 1)) = 12 then {CaptureTable(nlines x) }
        Begin
          For i = 1 to nlineskip Do Readln(f1) { advance pointer to start of table }

          For i = 1 to 12 Do
            Begin
              Readln(f1 xstr) { read current table }
              temp trim(xstr)
              If length(temp) > 0 then WriteLn(f2 xstr)
            End
          End
        End
      End

    close(f1)
    close(f2)
  End

```

```

End

Procedure CleanTableTOMOII(InputFile OutputFile string)
{ removes headers and empty lines for tx files containing a single table }

i integer
f1 InputFile
f2 OutputFile
xstr temp string

Begin
Assign(f1 InputFile)
Reset(f1)

Assign(f2 OutputFile)
Rewrite(f2)

While (not eof(f1)) Do
Begin
Readln(f1 xstr) { read current table }
{ xstr trim(xstr) }
If Ord(Copy(xstr 1 1)) = 10 then {capture tab character}
Begin
For i = 1 to 9 Do Readln(f2) { advance pointer to start of table }

For i = 1 to 31 Do
Begin
Readln(f2 xstr) { read current table }
temp trim(xstr)
If length(temp) = 0 then Writeln(f2 xstr)
End
End
End
close(f1)
close(f2)
End

```

```

Procedure ReadMunicipalCodes(f filename string)

```

```

var
f: text;
i integer;
dm1 char;
dm3 range[3];

Begin
writeln( Reading municipal codes );
Assign(f filename);
Reset(f);
i = 1;
While (not eof(f)) Do
Begin
With Readln(f) Do
Begin
Read(f deptcode);
Read(f municode);
read(f dm1);
Read(f departamento);
Read(f dm3);
Readln(f municipio);

departamento trim(departamento);
ReadFlag := false;
{ writeln(deptcode $ 0 municode $ 0 | departamento | municipio | ); }

```

```

        End
    i i i
End

C o e(f)
End

Procedure Che kSht Tab "CNCI ( InputFil nputFil _inputF #) OutputChkF 9

( shows matching contents of waize fil depts or municipalities
once d discrepancies identified blank entries must be manually
inserted )

ar
i ) Integer
f3 ← text
xs r emp ← og

Procedure GetLeta / f # line string
/Ar i Integer
Begin
(1) firstline
fo i 1 to 14 Do Readln(f1 x(i))
End

Begin
For i 1 to 291 Do Begin m1(i) m2(i) m3(i) End
Assign(f1 InputFile1)
Reset(f1)
j 1
While not Eof(f1) Do
Begin
Readln(f1 xstr)
m0(j) Copy(xstr 1 5)
m1(j) trim(Copy(xstr 6 length(xstr)))
{writeln(Copy(xstr 1 25)) }
For i 1 to 13 Do Readln(f1)
j j 1
End

Assign(f2 InputFile2)
Reset(f2)
j 1
While not Eof(f2) Do
Begin
Readln(f2 xstr)
xstr trim(xstr)
m2(j) xstr
{writeln(Copy(xstr 1 25)) }
For i 1 to 13 Do Readln(f2)
j j 1
End

Assign(f3 InputFile3)
Reset(f3)
j 1
While not Eof(f3) Do
Begin
Readln(f3 xstr)
xstr trim(xstr)
m3(j) xstr
{writeln(Copy(xstr 1 25)) }
For i 1 to 13 Do Readln(f3)
j j 1
End

```

```

Assign(f4 OutputChkFile)
Rewrite(f4)
For i = 1 to 291 Do WriteLn(f4 m0[i] m1[i] m2[i] m3[i])

Close(f1)
Close(f2)
Close(f3)
Close(f4)
End

Procedure CheckEnts aIn2Tables(InputFile1 InputFile2 OutputChkF as string)
{ Shows matching contents of depts or municipalities
once discrepancies are identified blank entries must be manually
inserted }

Var
i integer
j file text
ks emp string

Procedure GetData(Var firstLine as string)
Var
n integer
Begin
(1) firstLine
For i = 2 to 14 Do ReadLn(fi x(i))
End

Begin
Wr aIn( Matching dept/municipalities across tables Output OutputChkF 1 )
For i = 1 to 291 Do Begin m1[i] m2[i] m3[i] End

Assign(f1 InputFile1)
Reset(f1)
j = 1
While not Eof(f1) Do
Begin
ReadLn(f1 xstr)
m0[j] = Copy(xstr 1 5)
m1[j] = Trim(Copy(xstr 6 length(xstr)))
(WriteLn(Copy(xstr 1 25)) )
For i = 1 to 13 Do ReadLn(f1)
j = j + 1
End

Assign(f2 InputFile2)
Reset(f2)
j = 1
While not Eof(f2) Do
Begin
ReadLn(f2 xstr)
xstr = Trim(xstr)
m2[j] = xstr
(WriteLn(Copy(xstr 1 25)) )
For i = 1 to 13 Do ReadLn(f2)
j = j + 1
End

Assign(f4 OutputChkFile)
Rewrite(f4)
For i = 1 to 291 Do WriteLn(f4 m0[i] m1[i] m2[i])

```

```

Close(f1)
Close(f2)
Close(f4)
End

Procedure MergeTablesTOMO (InputFile1 InputFile2 OutputFile string)
{ merge the tables for cropland and land use into one by cutting left edge of tables 2 and 3 }

Var
i Integer
f1 f2 f3 f4 text
xstr temp string
x2 x3 string

Begin

WriteLn(MergeTablesTOMO: InputFile1 InputFile2 OutputFile)
Assign(f1 InputFile1)
Reset(f1)
Assign(f2 InputFile2)
Reset(f2)
Assign(f4 OutputFile)
Rewrite(f4)
While not Eof(f1) Do
Begin
ReadLn(f1 xstr) { start of current table }
ReadLn(f2 x2)
WriteLn(f4 xstr Copy(x2 50 length(x2)))
End

Close(f1)
Close(f2)
Close(f4)
End

```

```

Procedure Merge3TablesTOMOII (InputFile1 InputFile2 InputFile3 OutputFile string)
{ merges the tables for cropland/beans into one by cutting left edge of tables 2 and 3 }

Var
i Integer
f1 f2 f3 f4 text
xstr temp string
x2 x3 string

Begin

Assign(f1 InputFile1)
Reset(f1)
Assign(f2 InputFile2)
Reset(f2)
Assign(f3 InputFile3)
Reset(f3)

Assign(f4 OutputFile)
Rewrite(f4)

While not Eof(f1) Do
Begin
ReadLn(f1 xstr) { start of current table }
ReadLn(f2 x2)
ReadLn(f3 x3)

WriteLn(f4 xstr Copy(x2 50 length(x2)) Copy(x3 50 length(x3)))
End

```



```

close(f1)
close (f2)
lo *(f3)
lose(f4)
End

Procedure AddPage s f f eName ng]

( dfa a Chr( 2) page break t start of f i w/o adding another CR )
Var
f i of byt
ch yr
i integer

Begin
As gn(f1 f1 eName)
Reset
Read(f ch)
h
write 1 ch)
Close( 1)
End

Procedure ReplaceMissingUses( ar LD Ldtype chr nline integer )

( replace and for missing and 0 r spectively Replace Chr(0) for space )

Var
i integer

Begin
/ Write in( Replacing missing chr nline e) }
For i 1 to chr nline Do
Begin
f LD( ) then
Begin
{ write( ) }
LD(i)
End
f LD(i) then
Begin
{ write( ) }
LD( ) 0
End
)
End
End

Procedure ReStoreArray(Var LD Ldtype)

Var
i integer

Begin
For i 1 to MaxChr nline Do LD(i) #0
End

```

```
Function sSameString (Var LD LDType index len integer StrVar string) boolean
```

```
{ compare content of array LD on index by len with STRVAR }
```

```

*
integer
g boolean

Begin
flag true
i 1
While flag and ( i < len) and (i < length(StrVar / )) Do
Begin
If LD[index + i] = StrVar[i] then flag := false
i := i + 1
End
sSameString := flag
End

```

```
Procedure CopyToStr (Var LD LDType index NextPos integer Var StrVar string)
```

```
{ copy contents of array LD at specified positions into STRVAR }
```

```

Var
integer

Begin
WriteLn( Copying from pos index 1 to pos NextPos )
StrVar := Copy(StrVar 1 NextPos index 1)

For i := 1 to length(StrVar) Do
Begin
StrVar[i] := LD[index + i]
End

End

```

```
Function PosInArray (Ch Char Index integer Var LD LDType MaxLen integer) integer
```

```
{ Find second position of space in data stream starting at Index }
```

```

Var
i integer

Begin
i := 0
While (LD[Index + i] = Ch) Do
Begin
i := i + 1
[ write( i ) ]
End

While (LD[Index + i] = Ch) and (index + i = MaxLen) Do
Begin
i := i + 1
[ write( i ) ]
End

PosInArray := index + i

```

```

End

Procedure RemoveCommas(Var StrVar t cgl)

/*
temp t cgl
tag

Begin
temp StrVar
For i 1 to length(temp) Do
Begin
temp(i) then del te(cemp i)
{ Ord( temp(i) ) 0 then temp(i) }
End
StrVar temp
End

Proc Run Proc sscat Stream( ar LD LStype MaxLen integer Var Da loc Let LstType)

/* r
i integer
Code
nva usa
index NextPos k integer
V l e real
StrVar string

Begin
index 1 { starting position }
nva usa 0
Repeat
NextPos PosinArray( index LD MaxLen)
CopytoStr(LD index nextpos StrVar)
RemoveCommas(StrVar)
StrVar trim(StrVar)
{ writeLn(nvalues 1 : index 1 NextPos 1 StrVar ) }
code 0
If StrVar then Value nodata { missing data }
Else Val(StrVar /value Code)

If code 0 then
Begin
wr teLn(!! Error in numeric conversion StrVar) halt
End
Else
Begin
nvalues nvalues 1
DataLine(nvalues) value
End
index NextPos
Until index MaxLen

DataLine(0) nvalues { adding number of values to array }
{ writeLn( M nvalues 1 ) }
End

Procedure AssignTenancyCodes (Temp string Var Code integer)

{ repl ces the string that contains the tenancy class for a numeric code }
Var
TenCode integer

```

```

Begin
  TenCode  0
  If temp  De 1 then TenCode  1
  If temp  De 2 then TenCode  2
  If temp  De 3 then TenCode  3
  If temp  De 4 then TenCode  4
  If temp  De 5 then TenCode  5
  If temp  De 10 then TenCode  6
  If temp  De 15 then TenCode  7
  If temp  De 20 then TenCode  8
  If temp  De 30 then TenCode  9
  If temp  De 40 then TenCode 10
  If temp  De 50 then TenCode 11
  If temp  De 100 then TenCode 12
  If temp  De 150 then TenCode 13
  If temp  De 200 then TenCode 14
  If temp  De 300 then TenCode 15
  If temp  De 400 then TenCode 16
  If temp  De 500 then TenCode 17
  If temp  De 1000 then TenCode 18
  If temp  De 1500 then TenCode 19

  Code  TenCode
End

```

```

Proc dure Output FinalP e INF leName -- ng OUPP eName str ngI

{ Process dat stream (remove commas x m # ng etc )

/r fout text
  xstr string(50)
  j k integer
  CNCode string
  NewEntry Boolean
  StroffTenCl as string
  T nCode integer
  c char
  MaxLen integer

Begin
  An ign(f INFleName)
  Reset(f)
  Assign(fout outFileName)
  Rewrite(fout)
  i 0
  NewEntry False

  While not Eof(f) Do
    Begin
      ResetArray(LD) { clear array to chr(0) }
      { read current line n wo par's string and a l array }
      Re d(f xstr) { read first 50 charact re (coding and tencency classes )

      j 1
      While Not Eoln(f) Do { read data stream until end of line mark }
        Begin
          Read(f LD(j))
          j j 1
        End

      If SeekEoln(f) then
        Begin
          Readln(f) { Go to next line }
          i i 1
          If i 1 then MaxLen j { assign max len from first line }
        End

      { 1 Analyse contents Assign codes }
      NewEntry False
      If (xstr(1) = 0) or (xstr(1) = 1) then { REVERSELYFOURD }
        Begin
          NewEntry True

```

```

DMCode Copy(xstr 1 15)
DMCode Copy(trim(DMCode) 1 15) { if only dept data }

{ if department data put a 00 in end of municipality code }
If Copy(DMCode 4 1) then DMCode(4) 0
If Copy(DMCode 5 1) then DMCode(5) 0
End

StrOfTenClass Copy(xstr 16 27)
StrOfTenClass Copy(trim(StrOfTenClass) 1 7)
AssignTenancyCodes (StrOfTenClass TenCode)

{ 2 Procedure stream }
X placeM string use (LD MaxLen)

ProcessDataStream(LD MaxLen Dataline)

write(fout Copy(DMCode 1 5) TenCode 3 Trunc(Dataline(0) 3) { output DMcode and tenancy code }
For k 1 to Trunc(Dataline(0)) Do
  if Dataline(k) = 0 then write(fout 10 )
  Else write(fout Dataline(k) 12 )
write(fout)
{
  c readkey
  if upcase(c) = X then halt
}

End { while not eof }
Close(f)
Close(fout)

End

Procedure VerifyStratification(Filename string)
{ make sure that code for stratification is complete in the
final output file 004 }

Var
f text
TenCodeStr StrVar string
TenCode Code integer
i integer

Begin
Assign(f FileName)
Reset(f)

While not eof(f) Do
  Begin
  Readln(f StrVar)
  TenCodeStr Copy(StrVar 7 2)
  Val(TenCodeStr TenCode Code)

  If Code = 0 then
  Begin
  writeln
  write ln(## Non numeric code TenCodeStr StrVar)
  Halt
  End
  Else
  Begin
  If TenCode = 0 then
  Begin
  Write( CODE = StrVar #13);

```

```

For j = 1 to 3 Do
  Begin
    Readln(f StrVar)
    TenCodeStr = Copy(StrVar 7 2)
    Val(TenCodeStr, TenCode, Code)
    Write(CODE, StrVar, TenCode, #13)

    If TenCode = 0 Then Begin WriteLn(WriteLn(0? ERROR: TenCode = 0)) Halt End
  End
End
Else
  Begin
    WriteLn
    WriteLn(0? Missing code 0 TenCodeStr = StrVar)
    Halt
  End
End
i = i + 1
End
Code(f)
End

```

```
Var
  FileIn,FileOut string,
  endjob boolean
  j integer,
  fin string
  nskipstr string
  nskip integer
  code integer

Begin
  ClrScr,
  endjob = false
  New(HonDP),
  ReadMunicipioCodes('C \HJB\TP\MUNICODE ASC')

  Writeln('Enter input file to be cleaned  ')
  Writeln('Enter number of lines to skip  ')
  filein = paramstr(1),
  fileout = filein

  nskipstr = paramstr(2),
  Val(nskipstr nskip,code),
  writeln('Processing ',filein),
  { REMOVE HEADERS CLEAN SINGLE TABLE }
  CleanTableTOMOI(FileIN+' TBL',FileOut+' 001' nskip)
  { ISOLATE DEPT AND MUNICIPIO DATA }
  ExtractDeptData(FileIN+' 001',FileOut+'D 003',true),
  ExtractMuniData(FileIN+' 001' FileOut+'M 003',true)
  OutputFinalFile(filein+'D 003',fileout+'D 004'),
  OutputFinalFile(filein+'M 003',fileout+'M 004'),
  Dispose(HonDP),
End
```