

WORLD AGRICULTURAL CENSUS 1970-71

(FASLI 1380)

TAMIL NADU

Volume I
REPORT AND ANALYSIS

©
GOVERNMENT OF TAMIL NADU
1974

Issued by
**THE DIRECTOR OF AGRICULTURAL CENSUS,
MADRAS**




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This is to place on record
the meritorious services of
Thiru K. MUTHURAMA REDDY, M.A.,
Assistant Director of Statistics
(Agricultural Census)

who passed away suddenly
on 12th December 1973.

By his steadfast devotion to duty,
unflexible faith in selfless service and
perseverance in personalised
nature of work, the Officer
has left memories to be
cherished in sorrowful
remembrance.

P R E F A C E.

This volume contains the narrative report on the Agricultural Census and an analysis of the results. Chapter I gives the general historic background and the broad methodology. Chapters II to IV give relevant background information for the State. The remaining Chapters deal with the Agricultural Census and also give an analysis of the results obtained. The actual tables will be found in Volume II.

The co-operation and assistance extended by Officers of Government of India, Officers of the State Government—especially the Revenue and Statistics Departments—and all Heads of Departments, District Collectors and all the staff engaged in the Agricultural Census operations is gratefully acknowledged.

MADRAS,
28th February 1974.

S. A. SUBRAMANI,
Director of Agricultural Census.

CHAPTER I.

INTRODUCTION.

I. AGRICULTURAL PLANNING.

The basic economic structure in India is predominantly characterised by her land economy and rural population. Agriculture holds the key position and constitutes a sector which is closely linked with the economy as a whole. Growth rates in the overall economy are therefore dependent on growth in Agriculture. The era of planning in the country has evolved a series of new farm strategy measures to generate sustained growth rates in productivity. In the planning decades gone by, much emphasis was laid on growth oriented programmes in this vital sphere of agriculture and the development of necessary infra-structure facilities for ensuring its full contribution to economic development.

2. The strategy for development, as envisaged in the plans formulated by the Food and Agriculture Organisation in 1968, placed emphasis on closely integrated expansion of agriculture and allied industries and setting up a chain reaction resulting in faster growth for both. The basic accent on planning for achieving a break-through is laid on intensification and not extension of areas. This is obviously born out of the existing land to man ratio, the rates of population growth in the country and non-availability of virgin land except in relatively inaccessible areas where the cost of development will be much higher than the cost of intensification of the existing areas of production.

3. The levels of intensification needed and stimulation of self-sustained growth in the farm sector, therefore, depend upon the structural rationalisation, technical development and the quality of its labour. The radical transformation of the traditional structure of the agricultural enterprise and the deeply imbedded attitudes to work, adoption of agricultural innovation to reduce the seasonality of agricultural work, expansion of scope for raising labour productivity through intensification of the cropping pattern (where provision for the access of high yielding variety seeds, up-to-date agricultural machinery, quality fertilisers and pesticides, irrigation water from surface or sub-teranean sources, etc., is made), introduction of new factors of production, new incentives and a host of institutional changes are the essential pre-requisites for the major re-orientation in the farm activation programme.

4. The process of planning with its basic emphasis on the achievement of productivity efficiency in the agricultural sector has to be carried to the village level. Within a village or homogeneous groups of villages, the size structure and tenure of operated farm units have to be reckoned with for increasing productivity as they contribute substantially to the operational efficiency. An operational holding, as the fundamental unit of decision making in agriculture has, therefore, been more and more recognised as of paramount importance for agricultural production and planning in many Western countries, i.e., America and Britain, Japan and many European countries where great strides have been made towards the rationalisation of the agriculture sector and much progress has been achieved.

5. The present Census seeks to gather relevant information for micro-level agricultural planning on an operational holding basis.

II. AGRICULTURAL OPERATIONAL HOLDING.

An Operational Holding for the purpose of Agricultural Census is defined as "All land which is used wholly or partly for agricultural production and operated directly or managed as one technical unit by one person alone or with others without regard to the title, legal form, size or location". A holding may consist of one or more parcels of land provided

they are located within the same taluk (a restriction upto this area being made on administrative grounds) and form part of the same technical unit. A technical unit has been defined as "That Unit which is under the same management and has the same means of production such as labour force, machinery and animals". It would be seen from this definition that the actual tiller's or cultivator's holding, and not the owner's, is the fundamental unit of decision making.

2. Agricultural production for the purposes of the census, covers growing of field crops, fruits, grapes, nuts, seeds, tree nurseries (except those of forest trees), bulbs, vegetables and flowers, coffee, tea, cocoa, rubber, jute, oilseeds, fodder, grasses, etc.

3. The farmers who actually participate in tilling the soil, otherwise known as "Operational holders", may according to tenancy status, be grouped into two major divisions, viz., "cultivating owners" and "share croppers" or tenants. There is also an in-between category of tillers who own a portion of land under cultivation while accepting additional area of land for cultivation from others on a share cropping basis and they are called "Owner-cum-tenants".

4. A close scrutiny of all agricultural activities carried out by the farmers of these three categories, the characteristics they possess, and the resources they own, may reveal that there is a gradation of tenancy status from high to low. The cultivating owners are endowed with high tenancy status while the share cropper tenants have an intermediate tenancy status. These gradations in tenancy status have their corresponding impact on the strategy and methods adopted in the cultivation of land. Thus, the operational holders and the variability in the size of holdings held by them play a very significant role in the increase of agricultural production. This is the field where agricultural scientists can make a very useful contribution. What will be the best type of programme at the national level, at the sectoral level, at the regional level, and in regard to particular processes of operations, are questions which deserve immediate attention from the experts in the field. The Statistician can help a great deal in framing the best model development for the country as a whole, for the agricultural sector and for its different branches, etc., and in forecasting from time to time as to how far these models change with the changing situation from year to year and what corrective actions can be taken for effective implementation of the programme.

5. The new strategy of agricultural development covers a variety of programmes and wide array of activities directed to lifting the nation's agricultural production potentials, affecting beneficiaries like the small farmers, in-puts such as high yielding varieties, fertilisers, irrigation, and methods and models of cultivation, as exemplified by multi-cropping. Any scientific planning in the field of agriculture can become really possible only when data on the structure and characteristics of operational holdings are made available. It is to collect this type of data that the Food and Agriculture Organisation of the United Nations has been instrumental in conducting Decennial Agricultural Censuses in almost all the countries of the World since 1950.

III. HISTORICAL BACKGROUND.

The growth of the idea of a World Agricultural Census was the outcome of the efforts taken by the International Institute of Agriculture from its inception. Although the International Institute of Agriculture had been urging various Governments to take up Agricultural Census, the General Assembly of this Institute adopted in 1909 a resolution in which it expressed its refusal to propose any method of collecting statistics or the uniform application of a method. On the other hand, it was of the opinion that such methods should be chosen by the Governments in accordance with the conditions in each country.

2. At the next session, however, the General Assembly adopted a different attitude on the issue and expressed its view that an International Statistical Information Service could not function normally unless the national systems of collecting information on the area, condition, development and harvest of crops were based on uniform principles. And this resolution provoked an exchange of ideas on the matter and a change of ideas quickly came about. In 1913, the General Assembly invited the Permanent Committee of the Institute to state, product by product, the improvements which each of the countries should introduce in its statistical system so as to establish the International Statistical Information Services on a firm basis. In another resolution the General Assembly proposed a standard classification of Live-stock population for adoption by its member countries. In 1920, the first session after World War I confirmed these resolutions in their essentials.

3. A few years later, in 1923, the League of Nations which was finding a need for comparable international statistics, together with the International Statistical Institute, appointed a committee of experts to study the best methods for making economic statistics comparable between countries. Its agricultural sub-committee codifying to a large extent the rules already used by the International Institute of Agriculture, made recommendations on censuses of areas and censuses of Livestock. These recommendations were based on the principles of simultaneity and of uniformity in classification for the various countries. Although it was recommended that the Livestock census should be taken in the same year as the census of areas, the importance of determining by holdings the inter-relationship between areas and Livestock as recorded in an undivided agricultural census, was not yet clearly recognised. The conclusions of the Committee of experts were approved by the International Statistical Institute in its Fifteenth Session held in Brussels in 1923.

4. The first action towards a World Agricultural Census, authorising the International Institute of Agriculture to take steps to induce Governments to carry out a general Agricultural Census in accordance with a uniform plan to be prepared by the Institute, was taken by the General Assembly of the Institute in 1924. A special bureau charged with this particular work was created at the Institute in 1925.

5. The Director of the Census in the International Institute visited various countries in order to induce interest in the census and to discuss technical details. The standard form was discussed and improved by a Committee of Statisticians, delegates of different Governments, called especially to Rome on the occasion of the General Assembly Session and was ultimately approved in its final form by the Ninth General Assembly in October, 1925.

6. Sixty-three countries (including colonies) participated in the World Census of Agriculture of 1930 by carrying out a complete census, by making special enquiries or by attempting to obtain for the International Institute of Agriculture information more complete and exact for the census year than that normally available. In 46 countries the census was taken by holdings. Six others adopted the commune or other administrative units as the unit of enumeration. The remaining countries participated, on the initiative of the Institute, as far as they could. The Institute compiled the results of the census on lines as uniform as possible and published them separately for each country in English and French. In addition, the Institute prepared and published a methodological study of the questions asked in the schedules of the census, and also published certain details of the way in which the results were compiled in different countries.

7. It was the intention of the Institute that the 1930 census should be the first of the series of censuses to be taken at intervals of 10 years. Another World Agricultural Census was therefore planned for 1940. All the documents of the first census were printed by the Institute into five volumes in two separate editions—English and French and distributed by them to various Governments and requesting all interested countries to send

experts to Rome in order to discuss the programme of the Second World Agricultural Census in a conference. One after another two conferences were held in 1936 and in 1937. Based on the deliberations and recommendations made in these conferences, a booklet entitled, "Programme of World Agricultural Census, 1940", was finally prepared and forwarded to all Governments by the Institute. Further course of action was pursued by the Institute upto the moment when the outbreak of war and interruption of communication made it impossible to do so.

8. After World War II, the Food and Agriculture Organisation took over the responsibility of the International Institute of Agriculture. The first session of the Food and Agriculture Organisation Conference in 1945 asked for a study of the possibility of taking a World Agricultural Census in 1950. The Food and Agriculture Organisation's Standing Advisory Committee on Statistics meeting for the first time in August 1946 at Wassenaar near The Hague, laid down the general plan for carrying out the census. The recommendations included draft proposals for the census using the experience gained in the previous census and urged the Food and Agriculture Organisation's active participation in national programmes by training census personnel and by providing technical assistance to countries. The third session of the Food and Agriculture Organisation's Standing Advisory Committee on Statistics held in September, 1948 reviewed all the suggestions made by technicians from various parts of the World and completed the programme for the World Agricultural Census, 1950. The programme was issued in the three official languages of the organisation.

9. The regional meetings of the Food and Agriculture Organisation together with the training centres and technical assistance under the regular programme as well as under the expanded Technical Assistance Programme prepared the ground for a wide participation of countries in the Food and Agriculture Organisation's programme of the 1950 World Census of Agriculture. The number of countries, including territories, which took up a census in the frame-work of the 1950 World Census of Agriculture during the period from 1948 to 1955, amounts to 106, compared with 68 which participated in the 1930 World Census. In the 1950 World Census of Agriculture it was intended that each Government would obtain comprehensive, accurate and comparable information as indicated below :—

- (i) The number of Agricultural holdings and their principal characteristics, such as size, form of tenure, utilisation of the area, utilisation of labour, implements and mechanised power, etc.
- (ii) The number and characteristics of the people who obtained their livelihood from Agriculture.
- (iii) Areas under crops and numbers of livestock.
- (iv) The volume of production of all important agricultural products.

10. In stating the objects of the World Census, the Food and Agriculture Organisation laid special emphasis for the determination of accurate and comparable information on the areas under crops of international importance, on the numbers of livestock and to determine the principal features of Agricultural holdings.

11. In the original plan of the census programme of the Food and Agriculture Organisation a minimum list of items as indicated below was supplied to all participating countries :—

- (i) Holder and tenure.
- (ii) Land utilisation.
- (iii) Agricultural population.
- (iv) Employment in Agriculture.
- (v) Crops.

- (vi) Crop products.
- (vii) Agricultural technology.
- (viii) Fertilisers and soil dressing.
- (ix) Irrigation and drainage.
- (x) Fragmentation.
- (xi) Wood products cut on the holding and aquatic products.

12. In addition to this short list a more expanded list of items was developed for ensuring comparability in respect of items to be enumerated in countries for which the short list was not adequate and supplied to the participant countries. Most of the participating countries including India approached the census with the same general aim as that of the Food and Agriculture Organisation programme, i.e., to create a broad statistical basis for a structural knowledge of the country's agriculture. Many of the national questionnaires, however, cover only a part of the Food and Agriculture Organisation programme while many go further by including more subject-matter or more details on the Food and Agriculture Organisation subject-matter, depending on local conditions.

13. India participated in the World Agricultural Census of 1950, during 1953-54 and subsequently in the 1960 census, during 1959-60 and repeated the same during 1960-61. In both the censuses the data were collected, for the reference years 1953-54, 1959-60 and 1960-61 through the National Sample Survey and by Socio-Economic Surveys which gave estimates for the country as a whole and for larger regions. These estimates were of limited value for micro-level planning.

14. The Technical Committee on co-ordination of Agricultural Statistics set up in 1949 recommended that the essential data required in connection with the Agricultural Census should be collected by the method of Complete Enumeration through the Village Revenue Agency, by retabulating the information already available in the village records where these records are available. Though this procedure was accepted in principle, due to financial constraints, the requisite data were collected through Sample Surveys organised through the eighth round of National Sample Survey--Socio-Economic Survey for the reference year 1953-54, and similarly in the 16th and 17th rounds for the reference years 1959-60 and 1960-61 respectively.

15. According to the proposals received from the Food and Agriculture Organisation, the 1970 World Agricultural Census envisages, in principle, the collection of the data on all individual operational holdings by direct enumeration. It was however pointed out by the Food and Agriculture Organisation that sampling may be resorted to in the case of those countries where development of planning in Agriculture is at the initial stages and targets of the plan are set out broadly and the Census data required for planning purposes are sufficient if they are available at the national level or for larger regions of the country. They have further observed that both the methods could be combined in practice and with advantage. The precise part of the programme to be carried out through sampling and through complete enumeration will depend upon the nature of specific items and the uses for which the census data are intended as also upon the conditions in each country. If the data are needed for very small administrative units as a basis for regional planning or to provide bench mark information for current Agricultural Statistics, Sampling methods may be uneconomical and complete enumeration unavoidable, except for items which do not lend themselves to complete enumeration, as for example, estimates of production. Thus as observed by the Food and Agriculture Organisation, the choice between the two methods mentioned above would depend upon the purpose for which the data are required and the detail in which they are needed.

16. In the context of the implementation of the new strategy for Agricultural Development involving acceleration of the tempo of Agricultural Production and formulating programmes for small farmers, etc., the data on structure of holdings and other related items at the level of lower geographical units are very essential. Keeping this immediate objective in view and also the basic need felt for placing Agricultural Statistics on a sound footing, Government of India, after examining the pros and cons of the various methods suggested by the Food and Agriculture Organisation for carrying out Agricultural Census in consultation with the State Governments, have decided to conduct the Census in two parts as indicated below :—

Part One.—The method of complete enumeration may be adopted in respect of those items for which information is available from the Revenue Records directly by retabulation without making any further detailed enquiry from the holders in regard to (i) Number and Size of Operational holdings, (ii) Land Utilisation, (iii) Area under crops, (iv) Irrigation (Cropwise and Sourcewise) and (v) Tenure and Tenancy.

Part Two.—In respect of items (i) Farm Population, (ii) Livestock Numbers, (iii) Machinery and Implements, (iv) Application of Fertilisers and (v) Adoption of improved Agricultural practices for which land records do not contain any information, enquiry from households would be necessary. These items of information may therefore be collected by enquiry method through Sample Surveys.

17. Census for items included in Part One above as decided by Government of India was carried out by the method of retabulation by Tamil Nadu State Government for the Fasil Year 1380. Items in Part One and Two with the exclusion of Sub-item (v) was carried out by the National Sample Survey Organisation for the Fasil Year 1380 in their 26th round by adopting enquiry method through Sample Surveys, as suggested by Government of India.

IV. BROAD COMPARISONS OF METHODOLOGY DURING PAST CENSUSES AND THE PRESENT.

The broad pattern followed by the National Sample Survey Organisation in respect of coverage of items for the 26th round of the Land Holding Survey for the reference period 1970-71 was almost similar to that of the previous Sample Censuses carried out in their 8th, 16th and 17th rounds for the reference periods, 1953-54, 1959-60 and 1960-61 respectively, adopting the definitions and concepts as recommended by the Food and Agriculture Organisation in their programme of World Agricultural Census. The Survey, however covered additional topics of rural economic interest, namely, Ownership Holdings, land leased in and leased out, etc., as desired by the Government of India and the Planning Commission. The basic objectives of the Agricultural Census held by Tamil Nadu Government were similar to that of the National Sample Survey Organisation and the reference period covered corresponded to the Land Holding Census programme covered by the National Sample Survey Organisation in their 26th round. No similar Agricultural Census corresponding to the earlier reference periods namely, 8th, 16th, 17th rounds of National Sample Survey Organisation were conducted by the Tamil Nadu State Government.

2. The general approach to Census methodology as followed by the National Sample Survey Organisation in the present and past censuses is similar and based on Sample Survey. The Sampling design of the Survey conformed to stratified multistage sampling procedure. The Samples covered by the National Sample Survey Organisation consisted of three main portions, each of these portions arranged in the form of four independent interpenetrating net work of samples. Information on household ownership holdings and household operational holdings was collected. Household operational holding is defined as the land owned by the usual members of the household, less

land leased out, plus land leased in, and non-agricultural land such as house-sites, brick-fields, pastures, barren land, cultivable waste, etc., have also been included provided they form part of the holding.

3. The sample of households was taken separately for Rural and Urban sectors. By Rural sector is meant the aggregate of ownership (or operational) holdings owned (or operated) by households resident in the rural areas of the country irrespective of the location of the holding. For the survey in the rural sector a stratified two stage sampling procedure was adopted with villages selected as the first stage sampling units generally with probability proportion to population and with replacement, and the households within villages, selected systematically, after suitable stratification as the second stage sampling units. By Urban sector is meant the aggregate of ownership or operational holdings owned or operated by households residing in the urban areas of the country irrespective of the location of the holding. In the four big cities namely Calcutta, Bombay, Madras and Delhi and also in Shrinagar and Jammu the two stage sampling design was adopted. The blocks were selected as the first stage unit and household as the second stage sample unit. In the remaining urban areas the design was a three-stage one, after grouping the towns in a number of geographical contiguous regions according to the size class of population of towns. The towns were selected as first stage sampling units, the blocks within the selected towns as second stage sampling units and the households as third stage sampling units.

4. An operational holding according to National Sample Survey Organisation was considered to be an individual one if it was managed by one or more persons of the same household, whereas, if more than one household associated themselves in the management of a holding it was treated as a joint operational holding. The estimates of number and area of joint holdings were obtained giving due consideration to the number of households participating in the joint management. All lands brought under the operation of that joint unit would be integrated, as joint operational holdings. Information on operational holdings has thus been recorded separately for each operational unit which was directed or managed by a sample household alone or jointly with other households. The total area of household operational holdings is the sum of the areas of all holdings directed or managed solely by the household, together with a part of the area of joint holdings—determined on the assumption of equal share among all participating households. An Operational holding, according to complete enumeration census is "individual" if it is managed by one or more persons being members of the same household. When two or more persons share jointly (as partners) in technical and economical responsibilities for the operation of a holding, each is to be considered as a separate holder if they belong to different households and the holding is said to be a joint holding.

5. For the purpose of the Land Holdings Survey of the National Sample Survey Organisation, a Sample Household located either in Urban or Rural areas and operating land constituted the unit of enumeration, while the operational holding in the village constituted the unit of enumeration for the purpose of complete enumeration census. The entire geographical area in a Revenue village comprising all individual and joint, whether complete or part Operational holding units (excluding Government lands) was covered by the complete enumeration census, while the selected households resident in the Sample Village or Urban block constituted the unit for enumeration and sampling by the National Sample Survey Organisation. Basically there was no difference in the definition of an operational holding except the jurisdiction of the holding. The jurisdiction of an operational holding as defined by National Sample Survey Organisation was the State while the Taluk was earmarked as the jurisdiction of an operational holding for the purpose of complete enumeration census. Further, the National Sample Survey Organisation covered only sample operational holdings operated by Households and lands operated by Institutions such as Co-operatives, Private Companies, etc., were outside the purview of their survey.

6. The approach to Census methodology in the present census in 1970-71 followed by the Government of Tamil Nadu was based on complete enumeration of the entire geographical area operated in 11 out of 14 districts of Tamil Nadu noted below :

- 01 Chingleput.
- 02 South Arcot.
- 03 North Arcot.
- 04 Salem.
- 05 Dharmapuri.
- 06 Coimbatore.
- 07 Tiruchirappalli.
- 08 Thanjavur.
- 09 Madurai.
- 10 Ramanathapuram.
11. Tirunelveli.

7. The remaining (excluding the Madras city district) two districts of The Nilgiris and Kanyakumari were covered under sample surveys since the basic records could not lend themselves for retabulation of census data.

8. In 11 districts, the entire operated holding area, excluding Government lands, was retabulated from the village basic records (Account Nos. 2 and 10-1). Account No. 2 provided all information relating to area operated during the Fasli year wholly or partly, crops cultivated and irrigated, tenures and tenancies, etc. Account No. 10-1 provided information relating to registered owners of various parcels of lands included in the operational holdings. For the particulars of tenant cultivators, where tenant cultivator was operating land based on oral agreement and not recorded in Account No. 2, the primary reporters had been instructed to record such information based on their local knowledge. In districts where the records of Tenancy Rights had been done, for example in Thanjavur, this was also used. Holdings with less than 5 cents of area and holdings under old fallows were excluded from the scope of the census. Government forests, lands like common grazing porambokes and natham porambokes were excluded from the purview of the census.

9. The retabulation of data in the field as required for the census purposes was started in August, 1971 and was completed in December, 1971. The process of data retabulation by the village Karnams was covered in two stages. The first stage related to transferring of all information survey numberwise, excluding porambokes, to a rough register in a Revenue village so as to ensure complete coverage of area operated in each Revenue village. The entire numerical totals relating to cultivated and uncultivated lands, irrigated area, etc., were compared with those in the basic records and after tallying these figures, which was thoroughly overchecked by the Revenue Inspector, the operated holdingwise data was tabulated for each operator, both individual and joint holdings in basic holding form. The primary reporter also recorded information regarding part and complete holdings in the basic holding form. The jurisdiction of the operational holdings for the purposes of the census was a Taluk, and the consolidation of part holdings was carried out first at Firka level and finally at the Taluk level. The Karnams and supervisory officers incharge of the field work were provided with detailed instructions on the field work.

10. In the districts of The Nilgiris and Kanyakumari where the basic records could not lend themselves for retabulation of holdingwise information, the census programme was covered by the method of sample surveys. A multi-stage stratified simple random sampling procedure was adopted for the survey. Samples of households were selected by the process of systematic sampling with a random start and interval. The survey covered, (i) items,

under I to VI tables as compiled in the complete enumeration census and (ii) items under tables VII to XXIII relating to number of parcels of land, livestock numbers, farm population and employment in agriculture, farm implements, application of fertilisers, adoption of improved agricultural practices, etc. The survey was conducted by adopting interview method. The field work pertaining to the survey started in March, 1972 and was completed in September, 1972. The Village Officers who were given adequate training in the work canvassed the schedules.

11. In each of the selected villages 10 per cent of the operational holdings were selected, except Kalkulam and Vilavancode taluks of Kanyakumari district where 25 per cent of the holdings were selected (because of greater heterogeneity) for collection of data required for tables I to VIII. From out of this main sample of holdings, 20 per cent sub-sample holdings were selected for collection of data relating to tables IX to XXIII. Altogether data was tabulated in 23 tables as against 6 tables tabulated from complete enumeration data in respect of 11 districts. Data relating to tables 7 to 23 required for these 11 districts, are expected to be compiled by the National Sample Survey Organisation.

V. OBJECTIVES.

The basic frame being the size structure of the operated unit at the village level on which development planning in agriculture has to be developed, the need for collection of detailed information relating to the varying features of this structure such as the tenure, utilisation, sources of irrigation, cropped area, agricultural practices, availability of input factors, etc., could not be minimised. It would not be realistic to think in terms of efficiency planning in agriculture in the absence of the above noted factual data for individual or homogeneous groups of villages.

2. Keeping this in view and the need to fill up the gap in Agricultural Statistics in order to make them internationally comparable, the Government of India have decided to participate in the Global project sponsored by the Food and Agriculture Organisation on a complete enumeration basis for the first time in the country.

VI. REFERENCE PERIOD.

The reference period for the census adopted by all the States in the country as well as the National Sample Survey Organisation was 1970-71 (F. 1380) covering the agricultural year (Fasli year) commencing from 1st July, 1970 to 30th June, 1971. The Tamil Nadu Government declared 1970-71 (F. 1380) as the census year and issued instructions to all the district Collectors in the State on the nature of advance steps to be taken for updating the mutation and 10-1 registers and also to ensure preparation of the cultivation accounts for the reference year in a complete and accurate manner. This was followed by various stages of action culminating in the successful conduct of census strictly in accordance with the time schedule given by the Government of India.

2. Preliminary steps were taken for making advance arrangements required for the successful conduct of the census as early as 1968-69. A Pilot Census in three representative regions in the State was conducted during 1970 for assessing problems relating to the retabulation of data in a complete and accurate manner proposed for the census, testing the suitability of basic holding form prescribed by the Government of India and to get to know the approximate time taken by the Karnams for the correct retabulation of data. In each of the selected representative regions one complete firka was enumerated for the purpose of the pilot study. Based on the reports containing factual observations made during the study in respect of the three regions, the regular census programme including the design of the basic holding schedule, instruction, etc., was finalised.

3. The Agricultural holding census data in the State was mechanically processed and six tables in respect of each of the 11 districts were brought out during August, 1973 districtwise as required by the Government of India. The holdingwise data for individual districts in six tables, are grouped and presented under twelve size classes. Similar tables and also additional tables, 7 to 23, have been prepared in respect of The Nilgiris and Kanyakumari Districts covered by Sample Surveys. Summary tables for the State and regions and districtwise tables will be found in Volume II.

4. The census was covered in 13 districts of the State excluding Madras city district. Eleven districts comprising 16,293 Revenue villages in all, were covered under complete enumeration census and two, i.e. The Nilgiris with 33 villages and 23 towns and Kanyakumari with 64 paguthies comprising 1,145 karas were covered under Sample Survey basis.

CHAPTER II.

PHYSICAL FEATURES AND POPULATION.

I. GENERAL INFORMATION.

Tamil Nadu State is situated at the South-Eastern extremity of the Indian Peninsula, bounded on the north by Mysore and Andhra Pradesh, on the east by Bay of Bengal, on the south by the Indian Ocean and on the west by Kerala State. It has a coast line of 922 kilometres and land boundary of 1,200 kilometres. It lies between $8^{\circ}5'$ and $13^{\circ}35'$ of northern latitude and $76^{\circ}15'$ and $80^{\circ}20'$ of eastern longitude with an area of 130,069.0 square kilometres (50,154.7 square miles). It is the 11th State in India in area, forming 4.08 per cent of the Union area. It ranks 7th in population having 7.67 per cent of the total population. On 1st March, 1971 its population stood at 41,199,168 as against 33,686,953 in 1961, thus recording an increase of 22.30 per cent during the decade. The rate of increase in population is 2.2 per cent per annum. The density of population per square kilometre is 317. The State has 439 towns and 15,735 inhabited villages. The urban population of the State is 12,464,834 and the rural population 28,734,334. (Pondicherry with an area of 290.34 square kilometres and Karaikal with an area of 147.46 square kilometres, are the two union territories on the east coast.) For administrative purposes it has been divided into 14 districts including Madras City. The whole State including city has been divided into 137 taluks.

II. PHYSICAL FEATURES.

The State can be divided broadly into two natural divisions: (a) the coastal plains of South India and (b) the hilly western area.

2. Parallel to the coast and gradually rising from it, is the broad strip of plain country. It can further be subdivided into Coromandal plains comprising the districts of Chingleput, South Arcot and North Arcot, the Alluvial plains of the Cauvery Delta extending over Thanjavur and part of Tiruchirappalli districts and dry southern plains in Madurai, Ramanathapuram and Tirunelveli districts. It extends a little beyond Western Ghats in Kanyakumari district. The Cauvery Valley stretches across the region separating the hill groups, north and south of it. According to O.H.K. Spate, the Cauvery Delta presents some extremely distinctive physical and human features, its power being a main factor in the remarkable growth the towns of Tamil Nadu have witnessed in the recent years. It is associated intimately with the life of all its border regions. In the east, the low country 500 feet below, varies from 50 to 80 miles in width. This plain extends almost upto the feet of the ghats and only minor elevations can be found here and there, for instance the Valanad Hills. The Eastern Ghats enter Madras State from Andhra Pradesh in the north, cut across the State and merge with the Nilgiris Hills on the Western Ghats. The region is bounded on the south-west by the crest of the Cardamom Hills and on the north-west by the slopes of the Plateau. The region is in the form of a Rhombus and the longer diagonal of it stretches from the Pulicat Lake in the north to Cape Comorin in the south and the shorter diagonal from the Palghat gap in the west to Point Calimere in the east.

III. COAST LINE.

The State has an un-interrupted coastline of 922 kilometres. It includes the coastline of Pondicherry and Karaikal. The coastline is a lengthy boundary on the east. Not a single natural harbour capable of accommodating Ocean-going vessels can be found on this coast. Madras City has an artificial harbour. While it is the major port and Tuticorin a medium one, several smaller ports like Cuddalore, Nagapattinam and Colachel are found.

IV. HILLS.

The Western Ghat averaging 3,000 to 8,000 feet height, runs along the western part with the hill groups of The Nilgiris and Anaimalais on either side of it. Palani Hills, Varushanad and Andipatti ranges are the major off-shoots of the Ghat.

2. The other prominent hill group comprises the Javadis, the Shevaroyis, the Kalrayans and the Pachaimalais. These ranges continue south of the river Cauvery. A Plateau is found between these hills and the Western Ghats with an average elevation of 1,000 feet rising westward. The highest peak of Doddabetta in the Nilgiris is 8,650 feet above sea level. The characteristic feature of the hills of Tamil Nadu is that they have flattish surfaces at the heights. In general the summits are higher than those of the Mysore Plateau.

3. A detailed description of the hill ranges in the State is given below :—

(a) *Eastern Ghats*.—With an average elevation of 2,000 feet, the Eastern Ghats, beginning in Orissa State run through all the districts lying between Ganjam and the Nilgiris plateau. No river of any great importance rises from these ranges.

(b) *Western Ghats*.—The Western Ghats are 1,000 miles in length and run southward and terminate at Cape Comorin the southern most extremity. They are joined by the Eastern Ghats and at the point of junction, form the high plateau of the Nilgiris. Near Coimbatore District the range is interrupted by the Palghat-Gap. The South of the Gap is known as Anaimalais (Elephant Hills) and the east as Palanis. The rivers Cauvery, Vaigai and Tambaraparani originate from the Anaimalai ranges.

(c) *Shevaroy Hills*.—This range is in Salem district with an area of 150 square miles. The Vanniar Stream divides the range and the western portion consists of 3 plateau of which Pachaimalai (Green Hills) is the largest. Hardly any forest of importance is found in this range.

(d) *Palani Hills*.—Palani Hills measuring 54 miles in length and 15 miles in width and occupying an area of 800 square miles is found in Madurai district. The hill's health resort Kodaikanal is 7,200 feet above sea level. The ranges are steep in the south and slope more gradually down the plains in the north. Teak and black wood are found in the higher level forests while coffee is cultivated in the lower Palani.

(e) *Anaimalai*.—This range covering 80 to 100 square miles, consists of a plateau 7,000 feet above sea level with peaks of over 8,000 feet. The Anaimalai peak of 8,837 feet height is the highest point in South India. Coffee is grown on a considerable area on the lower ranges. The forests contain a teak belt and elephants are found in abundance.

V. RIVERS.

The Western Ghats form a complete water shed and no river pierces through them. The main streams, viz., Paraiyar and Vattasari Phazhayar are 37 and 23 miles respectively in length and fall in the Arabian sea.

2. All the other rivers are east flowing rivers. The Eastern Ghats are not a complete water shed and as a result the rivers pierce through them, notable among them being the river Cauvery.

(a) *Cauvery*.—This river is 475 miles long and drains an area of 28,000 square miles. It takes its origin on the Brahmagiri in Coorg in the Western Ghats. After travelling some distance in Mysore State, the river enters Tamil Nadu. Across this river a huge reservoir has been constructed called the Mettur Dam. Near Tiruchirappalli, there is an Anaicut called the Upper Anaicut and another located in Thanjavur district is called as Grand Anaicut. The Cauvery has been so well utilised that its drainage channel the Coleroon is always dry. The tributaries of the river Cauvery are Bhavani, Amaravathy and Noyai.

(b) *Vaigai*.—This is the second most important river in Tamil Nadu. It originates in Varushanad hills and receives much of the drainage from the upper and lower Palanis. The river has been dammed in Madurai close to Theni and there is also an anaicut at Anaipatti in Madurai district. This river receives freshes in June during the South-West Monsoon.

(c) *Thambaraparani*.—This river, which is 70 miles long, rises in the southern portion of the Western Ghats and drains an area equal to 1,937 square miles. The valley of the river contains some of the richest lands in the State. The chief tributaries of the river are Ramanadhi, Ghatana, Pachaiyar and Chittar.

(d) *Palar*.—The river Palar rises in Nandhi hills of Kolar in Mysore State. It is 183 miles long and runs through Chingleput and North Arcot districts. Its chief tributaries are Cheyyar and Ponni.

(e) *Ponnaiyar*.—This river also rises very near to Nandhi Hills in Mysore State. It enters Tamil Nadu near Dharmapuri and runs 200 miles before joining the sea near Pondicherry. With a drainage area of 620 square miles, the river has no delta on its mouth.

(f) *Vellar*.—This river rises in Kalrayan hills, flows in the easterly direction and joins the sea near Portonovo. The length of the river is 134 miles and drains an area of 266 square miles.

(g) *Small Rivers*.—Among the small rivers worth mentioning in this context is Courtalayar which flows from the surplus waters of Kaveripakkam tank. The river runs in Chingleput district. Another small river, viz., Cooum river is also formed of the surplus waters of the Cooum tank in Chingleput district. This river runs through Madras City and joins the sea.

VI. CLIMATE.

The climate of Tamil Nadu is basically tropical. However, on account of the proximity to the sea, it is more equable than the climate of North India. Summer is less hot and winter is less cold. The maximum daily temperature rarely exceeds 43 °C. (110 °F.). The minimum daily temperature seldom falls below 18 °C. (65 °F.). The State is exposed to both the monsoons—south-west monsoon from June to September and north-east monsoon from October to December. The State is bounded on the north and west by mountains where there is considerable precipitation.

VII. WINDS.

The winds blow from the south-westerly direction from June to October and north-easterly direction from October to June. There are, of course, local variations and variations during cyclonic storms. The cyclonic storms generally originate in the Bay of Bengal close to Andamans. The cyclones generally travel in a north-westerly direction. The coast from Thanjavur to Madras is particularly susceptible to cyclones, though cyclones have been known to hit even as far south as Tuticorin.

VIII. TEMPERATURE.

Tamil Nadu is completely within the tropics lying between $8^{\circ} 5'$ and $13^{\circ} 35'$ of Northern latitude. The sun crosses vertically over head at all places twice a year. The length of the day is seldom below 11 hours and the sky is generally cloudless between January to June resulting in comparatively high temperatures. The temperature starts rising from January and it reaches the maximum in May when it starts falling again. In October, with the commencement of the north-east monsoon, the temperature falls very rapidly. It is fairly low in October, November and December. In Madras City, the mean temperature is between 75°F. and 88°F. The difference is less than 15°F. In Coimbatore, the average maximum temperature ranges between 85°F. and 96°F. and the average minimum temperature ranges between 64°F. and 74°F. In the Southern districts of Tiruchirappalli, Thanjavur, Ramanathapuram and Tirunelveli, the maximum average temperature ranges from 83°F. to 114°F. and the minimum average temperature ranges from 68°F. to 79°F. The Nilgiris district has of course an entirely different climatic condition because of its being a mountainous region. The average maximum temperature varies from 60°F. to 75°F. and the average minimum temperature varies from 45°F. to 55°F.

2. Dry spells are quite common and sometimes during such spells, heat waves sweep along Tamil Nadu and the mercury rises above 100°F. Madras City which is on the sea coast is also not spared by these heat waves. On the coast, the highest mean maximum temperature is less than 99°F. and the minimum is 80°F. In the northern parts of the coast, the highest mean daily maximum temperature is reached towards the end of May while in the southern parts of the coast, it is reached towards the beginning of May. The highest maximum temperature occurs earlier in the interior part than on the coast. In the beginning of the hot season, there are winds drafted from the sea towards the hot interior. These stormy winds bring down the day temperature appreciably. However, during May, the westerlies blow towards the coast and overpower the south-eastern drafts. These winds descend from the plateau towards the sea. They are subjected to compression which increases their temperature. By the time they reach the coast, they have blown on vast stretches of land and the temperature is progressively increased.

IX. AGRO-CLIMATIC ZONES AND RAINFALL.

The Western Ghats acting as a barrier deprive the entire State of Tamil Nadu of the full blast of the South-West Monsoon winds and the consequent possible copious rainfall during the season. However, with the retreat of the South-West Monsoon Season and the reversal of the pressure distribution, which normally begins in early October, a trough of low pressure gets established in the South Bay of Bengal. This trough occasionally gets accentuated by low pressure waves from the east moving westwards. This feature persists during October-December and the period is taken as the North-East Monsoon Season for the State. During the period, depressions or cyclonic storms form in the Bay of Bengal and affect the State.

2. The distribution of rainfall over the State during the North-East Monsoon Season is influenced to a very large extent by the formation and movement of these storms and depressions. Generally a good portion of the State gets the major part of the annual rainfall during this season. The rainfall during the South-West Monsoon Season is generally associated with the convective activities and normally occurs in the late afternoons and nights. The annual normal rainfall in Tamil Nadu is 945.7 mm., while the rainfall during 1970-71 was 918.1 mm.

3. The seasonwise break up of normal and actual rainfall is given below :—

TABLE. I

Season.	Normal. (mm)	Actual. (mm)
(1)	(2)	(3)
1. South-West Monsoon	307.3	318.0
2. North-East Monsoon	449.7	420.2
3. Winter	50.9	28.5
4. Summer	137.8	151.4
Total ..	945.7	918.1

4. *Rainfall Regions*—(a) *High rainfall region*.—The high rainfall regions are The Nilgiris, coastal portions of South Arcot and Chingleput districts and the Palani hills.

(b) *Medium rainfall region*.—The medium rainfall regions comprise the western parts of Chingleput and South Arcot districts, the whole of North Arcot district, the eastern part of Salem, western part of Thanjavur, eastern and northern parts of Tiruchirappalli district, eastern part of Madurai, northern part of Ramanathapuram, Coimbatore and Salem districts.

(c) *Low rainfall region*.—The low rainfall region consists of the central and southern parts of Ramanathapuram district, Tirunelveli district, central part of Coimbatore district, central and western parts of Madurai district and the southern half of Tiruchirappalli district.

(d) *Very low rainfall region*.—The very low rainfall region is the north-central portion of Coimbatore district.

(e) *Number of rainy days*.—The number of rainy days for the entire State averages 50 days per year. The number of rainy days is 106.2 and 85.9 in The Nilgiris and Kanyakumari districts respectively. The lowest is in Ramanathapuram district which is 45.8 days per year.

(f) *Variability of rainfall*.—Tamil Nadu is subjected to very heavy, heavy and low rainfalls. The variability is significantly high in Coimbatore and Tirunelveli districts. The bulk of the rain falls in the season of the North-East Monsoon. The precipitation is generally accompanied by depressions in the Bay of Bengal which assume cyclonic proportion and cross the coast. The rainfall is, therefore, generally heavy along the coast. Only the areas lying in the track of cyclone in the interior receive heavy rainfall. Thus, in the interior, the co-efficient of variability is very high.

5. Having regard to the variability of the rainfall, the State has been divided into seven agro-climatic regions :—

(a) *East Coast region*.—This consists of Chingleput, North Arcot, South Arcot and Thanjavur districts. It has an annual average rainfall of 1,255 mm. The rainfall during the South-West Monsoon is rather low with an average fall of 511.1 mm. and the North-East Monsoon is high, the average for the region being 581.6 mm. In this region, 63 per cent of the net area is irrigated. Paddy is the main crop with groundnut and millets as subsidiary crops.

(b) *Northern region*.—This includes Dharmapuri and Salem districts. It has an annual average rainfall of about 800 to 900 mm. The rainfall during South-West Monsoon is medium and it is low during the North-East Monsoon. The percentage of net area irrigated is 22.6. Well irrigation accounts for 62 per cent of the total area irrigated. Millet is the predominant crop but groundnut and pulses are also grown.

(c) *North-West region*.—This comprises Coimbatore district. The annual rainfall ranges between 600 to 800 mm. The rainfall is less than 200 mm. during the South-West Monsoon. The percentage of net irrigated area is 35.2. Well irrigation accounts for more than 53.1 per cent of the total area. The major crop is millet, subsidiaries being groundnut and pulses.

(d) *West-Central region*.—This consists of Tiruchirappalli and Madurai districts. This has an annual average rainfall of 800 to 900 mm. the bulk of it falling in North-East Monsoon. The percentage of net area irrigated is 32.1. Well irrigation accounts for 29.6 per cent in Tiruchirappalli and 38.6 per cent in Madurai. The main crop is millet, subsidiaries being pulses and cotton.

(e) *South-East region*.—This comprises Ramanathapuram and Tirunelveli districts. The average rainfall during the year is 584 mm. The South-West Monsoon is considered to be weak and the bulk of the rain falls during the North-East Monsoon period. The net irrigated area accounts for 34.4 per cent. Well irrigation accounts for 25.1 per cent of the total irrigated area. Rice is the main crop with millets, cotton, groundnut and pulses as subsidiary crops.

(f) *South-West region*.—This comprises of Kanyakumari district only. This has an annual rainfall of more than 1,400 mm. bulk of which falls during the South-West Monsoon period. The percentage of net area irrigated is 39.3 and paddy is the main crop. Tapioca and coconuts are the subsidiary crops.

(g) *Western hill region*.—This consists of the Nilgiris district and Kodaikanal taluk of Madurai district. Annual rainfall is over 1,000 mm. In the Nilgiris, the bulk of the rainfall is during South-West Monsoon period. About 1.5 per cent of the net area sown is irrigated. Number of plantation crops are raised in this region.

X. MINERALS.

Tamil Nadu State has a variety of minerals. They are Limestone, Magnesite, Gypsum, Crude Mica, Bauxite, Ilmenite, Fireclay, Lignite, etc. A few are exploited. The rest are small deposits. Lignite, Magnesite, Gypsum, Limestone and Fireclay are the minerals exploited on commercial basis. The Salem Magnesite resources are among the best in the country. Large quantities of limestone and clay are available in Tirunelveli, Ramanathapuram, Tiruchirappalli and Salem districts. Tamil Nadu is one of the

largest producers of Common salt from sea water in the country. The Neyveli lignite project has a capacity of mining 3.5 million tonnes of lignite which can be used to produce Briquettes (Domestic fuel).

2. In Tamil Nadu the districts of Coimbatore, Salem, South Arcot, Tiruchirappalli and Tirunelveli possess most of the mineral deposits in the State. Iron ore is found in Salem and Coimbatore districts, Gypsum in Coimbatore and Tiruchirappalli, Bauxite and Magnesite in Salem, Lignite in South Arcot, Limestone in Tiruchirappalli and Tirunelveli and Ilmenite in Tirunelveli and Coimbatore districts. No metallurgical coke is found in the State.

3. The following table shows the mineral production in Tamil Nadu during 1971 (January to December) :—

TABLE II.

<i>Name of mineral.</i>	<i>Production in Metric tonnes.</i>	<i>Value in '000 Rupees</i>
(1)	(2)	(3)
1. Bauxite	73,558	1,282
2. Chinaclay (Non-Saleable)	7,720	Not available
3. Chinaclay (Saleable crude)	1,009	Not available.
4. Chinaclay (Processed)	1,888	313
5. Feldspar	9,138	51
6. Fireclay	24,196	117
7. Garnet	5	Not available.
8. Gypsum	1,04,318	2,144
9. Limeshell	1,742	52
10. Limestone	40,84,171	30,541
11. Magnesite	2,86,213	7,752
12. Quartz	2,039	20
13. Sillimanite	311	150
14. Vermiculite	241	5
15. Lignite	36,60,200	92,769

XI. SOILS.

The climate, rainfall and drainage pattern of an area largely influence the formation of soils and variations in climatic conditions result in different kinds of soils. The following types of soils are predominantly found in Tamil Nadu.

2. *Red Loam Soils.*—This soil occupies a large part of Tamil Nadu State, particularly the interior districts including the coastal districts. It is found predominantly in parts of Chingleput, South Arcot, North Arcot, Salem, Dharmapuri, Coimbatore, Tiruchirappalli, Thanjavur, Ramanathapuram, Madurai, Tirunelveli and The Nilgiris. The red or brown colour of the soil is attributed to the diffusion of iron content.

3. *Laterite soils*.—This soil is clayey and generally brick red, with a little Titanium present in it. It is found in parts of Chingleput, Thanjavur and The Nilgiris districts.

4. *Black soils*.—The black clayey Alumina-rich soil is known as "Regur" or Black Cotton soil. Low rainfall plays a part in the formation of this kind of soil. It is found predominantly in parts of Coimbatore, Madurai and Tirunelveli and in patches in the districts of Chingleput, North Arcot, Salem, Dharmapuri, Ramanathapuram and The Nilgiris.

5. *Alluvial soils*.—Coastal and Deltaic areas comprise of Alluvial soil. This type of soil occupies the whole of the coast of Tamil Nadu State with some breaks in Thanjavur, South Arcot, Chingleput, Kanyakumari and Ramanathapuram districts.

6. *Saline soils*.—These soils are found in regions of poor drainage and high evaporation. Effloreses of Calcium, Sodium and Magnesium salts are other characteristics of this soil. It is found in small patches in the districts of Coimbatore and The Nilgiris.

7. *Other soils*.—Peaty and Marshy soils are very local and restricted to hilly areas of high rainfall and low drainage. Desert soils are rather rare in Tamil Nadu.

XII. FORESTS.

Tamil Nadu has rather little forest resources. The total area under forests was 21,072 square kilometres of which 17,264 square kilometres are reserved forests and 3,808 square kilometres are reserved lands. This constitutes 16.0 per cent of the total geographical area against 33 per cent which is considered to be the optimum requirement in a predominantly agricultural economy like Tamil Nadu. The State's endeavours in this regard have been to reduce the imbalance by extending the coverage through a programme of afforestation of commercial timber and fuel species. In the Fourth Plan period it was proposed to cover under rubber an additional area of 2,000 acres and also establish a rubber factory for processing latex. This scheme included forestry expansion, creation of river canals and lakes, fringe forests, consolidation of existing forests, survey of forest resources, rehabilitation of degraded forests, development of pastures for grazing and preservation of wild life. The centrally sponsored scheme for the plantation of quick growing species like Bamboo, Eucalyptus, Grandis and other fastgrowing species over 5,000 acres in the plan period also made significant progress. This programme will be intensified considerably so as to cover 25,000 acres during the Fifth Plan period.

2. The following table shows the out turn of important forest products and revenue realised.

TABLE III.

Item.	Unit.	Quantity.	Value.
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS)			
<i>Major Forest Products.</i>			
1. Timber	Tonnes.	41,699	44.80
2. Sandalwood	Do.	1,415	122.79
3. Fire wood	Do.	2,78,320	83.65
<i>Minor Forest Products.</i>			
1. Bamboo and Cane	Do.	Not available.	29.45
2. Fibres, flasses and others	Do.	Do.	33.16

XIII. POPULATION SPREAD.

The population and its growth trends have to keep pace with the trends of growth in crop production in the country where the land economy provides a major contribution to the State Income. In as much as the economic policy of the country relates to the principle of "Welfare Economics", where the responsibility of finding the basic food requirements of every citizen is assumed by the State, the trends in the population growth is one of major concern to the country. Further the elimination of adverse effect of famine, the control of epidemics and better health facilities resulted in lowering mortality and a great spurt in population since 1951 as could be seen in the figures given below :--

TABLE IV.

	1941	1951	1961	1971
(1)	(2)	(3)	(4)	(5)
Population	26,267,507	30,119,047	33,686,953	41,199,165
Percentage of variation over the previous decade	(+) 11.91	(+) 14.66	(+) 11.85	(+) 22.30
Index of population (Base : 1901= 100).	136.4	156.4	175.0	213.9

2. Of the total population in Tamil Nadu, 20,823,021 persons or 50.5 per cent are males and 20,371,147 persons or 49.5 per cent are females. 30.3 per cent of the population or 12,464,834 persons are in urban areas and the remaining 69.7 per cent or 28,734,334 persons are in rural areas. The districtwise population classified into rural and urban is shown in Annexure 1.

3. Eighty per cent of the population lives in rural areas in India as against 69.7 in Tamil Nadu. Though there has been a perceptible increase in the urban population as per the 1971 census, the overall picture is that our population is still predominantly rural. According to the views of experts in the field, the population base is so large that it is doubtful if the country will reach in the foreseeable future the degree of urbanisation associated with the Western countries. For example, about 79 per cent of the population of the United Kingdom is urban, it is 74 per cent in Canada, 70 per cent in U.S.A. and 56 per cent in U.S.S.R. Among the Eastern countries, the highest urbanisation has been covered in Japan where 78 per cent of the population lives in urban areas. There is plenty of scope in these countries for providing employment for the working population in non-agricultural sector. Studies also indicate that there is a differential in the fertility of rural and urban population, urban being distinctly lower than rural. Several factors operate leading to this differential such as differential levels of literacy and education, type of occupation, sex ratio, age structures, facilities for observing family limitation, etc.

4. Thus the lower level of fertility indicated above is applicable to only 30.3 per cent of the population leaving 69.7 per cent in the rural areas in Tamil Nadu. According to the 1971 census the working force engaged in agriculture (cultivators and agricultural labourers put together) is of the order of 61.7 per cent of the total working force.

5. Literacy standards in Tamil Nadu as per 1971 census (compared with 1961 census figures) have shown a significant increase. The percentage of literacy in the State is 39.5 in 1971 as against 31.4 in 1961.

6. The percentage of literacy in 1971 amongst male population is 51.8 as against 44.5 in 1961, and amongst female population it is 26.9 as against 18.2 in 1961. Districtwise details of percentages of literacy are indicated below :—

TABLE V.

District.	Percentage of Literacy.					
	Persons.		Males.		Females.	
	1961	1971	1961	1971	1961	1971
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Madras	59.5	62.0	69.6	70.6	48.2	52.5
Chingleput	27.9	39.7	40.2	51.8	15.1	27.0
South Arcot	26.7	31.1	40.6	44.1	12.7	17.8
North Arcot	24.7	34.7	37.1	47.6	12.2	21.4
Salem	22.1	31.2	32.7	42.7	11.3	20.3
Dharmapuri	15.7	22.3	23.7	31.7	7.5	12.7
Coimbatore	30.2	38.9	43.3	51.3	16.7	25.9
Tiruchirappalli	29.9	37.5	44.7	51.2	15.3	23.7
Thanjavur	33.5	39.7	48.7	53.8	18.7	26.1
Madurai	33.4	41.5	48.1	55.1	18.6	27.8
Ramanathapuram	32.1	39.7	48.3	54.7	16.8	25.4
Tirunelveli	36.4	44.8	50.0	57.1	23.5	33.0
The Nilgiris	35.7	47.1	48.3	58.5	21.9	34.9
Kanyakumari	48.6	58.2	56.2	64.1	40.7	52.1
State	31.4	39.5	44.5	51.8	18.2	26.9

7. It may be seen that the percentage of literacy, excluding Madras district, amongst both male and female population is the highest in Kanyakumari district and the lowest in Dharmapuri district. The percentage of literacy is above the State average amongst male population in The Nilgiris, Madurai, Thanjavur, Tirunelveli and Kanyakumari and in the case of female population it is above the State average in Chingleput, The Nilgiris, Madurai, Tirunelveli and Kanyakumari districts. The percentage is either the same or bordering the State average in Chingleput, Coimbatore and Tiruchirappalli amongst male population and the trend is similar amongst females in Thanjavur district. The literacy percentage is below State average in respect of female population in North Arcot, South Arcot, Salem, Dharmapuri, Coimbatore, Ramanathapuram, Tiruchirappalli and Thanjavur districts and similar trend is observed in respect of male population in North Arcot, South Arcot, Salem, Dharmapuri and Ramanathapuram districts.

8. The overall literacy percentage is the highest in Madras City and next in order comes Kanyakumari while the lowest is recorded in Dharmapuri district. It is above State average in Madras, Chingleput, The Nilgiris,

Madurai, Ramanathapuram, Thanjavur, Tirunelveli and Kanyakumari districts while it is below the State average in North Arcot, South Arcot, Coimbatore, Tiruchirappalli, Salem and Dharmapuri districts.

9. A study of 1 per cent sample data of 1971 census for the nation as a whole regarding the standard of literacy and educational levels of persons working in agriculture in rural areas conducted by the census organisation has revealed that a vast majority of the rural working force in agriculture is illiterate as indicated below :—

TABLE VI.

	Ser.	Total workers.	Percentage of illiteracy.
(1)	(2)	(3)	(4)
I. Cultivators	Males ..	676,779	65.59
	Females ..	90,254	92.16
II. Agricultural Labourers.	Males ..	302,970	79.74
	Females ..	151,241	95.12

10. This may be the reflection on the generally poor condition of literacy in the rural population itself. The improvement of literacy and vocationalisation of education for agricultural workers may be necessary as this would help in providing a better quality labour more receptive to new ideas.

XIV. PRESSURE ON LAND IN 1961 AND 1971—AGRICULTURAL WORKERS AS PERCENTAGE OF THE TOTAL WORKERS IN THE STATE.

Distribution of population among workers and non-workers in 1961 and 1971 is noted below :—

TABLE VII.

	1961.	1971.	Variation.
(1)	(2)	(3)	(4)
	(IN '000).		
1 Cultivators	6,458	4,608 (—)	1,850
2 Agricultural labourers	2,828	4,490 (+)	1,662
3 Mining, Quarrying, Livestock, Forestry, etc.	435	454 (+)	19
4 Household industry	1,207	670 (—)	537
5 Manufacturing other than household industries.	848	1,302 (+)	454
6 Construction	205	235 (+)	30
7 Trade and Commerce	758	1,154 (+)	396
8 Transport, Storage and Communication.	254	466 (+)	212
9 Other Services	2,358	1,364 (—)	994
10 Total workers	15,352	14,742 (—)	610
11 Non-workers	18,335	26,457 (+)	8,122

2. The changing concepts from census to census of workers and non-workers, make the figures somewhat not comparable. The above figures do reflect that the working population gets absorbed largely in agriculture. Based on the annual geometric growth rate (2.2 per cent) of population, indicated in the 1971 census, the persons who get added annually to the working force in the next decade or two are already born and the problem is how best these increments to labour force could be utilised so as to give the best socio-economic returns to the State. The large mass of growth of labour occurs only in rural areas and this has to be absorbed only in rural areas. It is difficult to envisage as to what extent the increments in labour force in rural areas could be syphoned off to urban areas.

3. As per Agricultural Census 1971, workers available for 100 hectares of operated area are 126 and the per holding availability is 2. The per capita land availability in the State is 0.32 hectare as against 0.19 hectare of operated area.

4. The density of population, per capita land availability in 1961 and 1971 and per capita land operated in 1971 are given in the statement below :—

TABLE VIII.

<i>District.</i>	<i>Density of population per square kilometre.</i>		<i>Per capita land (in hectare).</i>		<i>Per capita operated area (in hectare).</i>
	1961	1971	1961	1971	1971
(1)	(2)	(3)	(4)	(5)	(6)
Madras	13,648	19,293	0.007	0.005	..
Chingleput	269	367	0.38	0.28	0.15
South Arcot	280	312	0.36	0.30	0.19
North Arcot	259	306	0.39	0.33	0.16
Salem	286	346	0.35	0.29	0.16
Dharmapuri	138	174	0.72	0.57	0.27
Coimbatore	228	279	0.44	0.36	0.22
Tiruchirappalli	224	269	0.45	0.37	0.25
Thanjavur	335	395	0.30	0.25	0.18
Madurai	255	312	0.39	0.32	0.18
Ramanathapuram	174	227	0.52	0.44	0.28
Tirunelveli	239	280	0.42	0.36	0.28
The Nilgiris	161	194	0.62	0.52	0.14
Kanyakumari	596	726	0.17	0.14	0.07
State	259	317	0.39	0.32	0.19

5. It may be seen that the density for the State works out to 317 persons per square kilometre as against 259 in 1961. Excluding Madras district, the density is the highest in Kanyakumari district while it is the lowest in Dharmapuri district. The density is above State average in Madras, Chingleput, Salem, Thanjavur and Kanyakumari districts as per 1971 census, while it is below State average in South Arcot, North Arcot, Dharmapuri, Coimbatore, Tiruchirappalli, Madurai, Ramanathapuram, Tirunelveli and The Nilgiris districts.

6. The average per capita land availability of the State in 1971 is (Geographical area \div the population) 0.32 hectare as against 0.39 in 1961. The per capita land availability is the highest in Dharmapuri district and the lowest in Kanyakumari district. It is above State average in North Arcot, Dharmapuri, Coimbatore, Tiruchirappalli, Ramanathapuram, Tirunelveli and The Nilgiris districts, while it is below State average in Chingleput, South Arcot, Salem, Thanjavur and Kanyakumari districts. In Madurai district the per capita land availability is the same as the State average.

7. The average per capita operated area in 1971 (operated area \div total population) for the State works out to 0.19 hectare. It is the highest in Dharmapuri district while it is the lowest in Kanyakumari district and it is the same as State average in South Arcot district. In Chingleput, North Arcot, Salem, Thanjavur, Madurai, The Nilgiris and Kanyakumari districts, the per capita operated area is lower than the State average, while it is higher in Dharmapuri, Coimbatore, Tiruchirappalli, Ramanathapuram and Tirunelveli districts.

8. The density of population as per 1971 figures has shown a uniform trend of increase over 1961 figures in all the districts in the State while the trend is reversed showing a uniform decrease in the per capita land availability in all the districts of the State. Districtwise percentage increase in the density of population and decrease in the per capita land availability as per 1971 census compared with 1961 census figures are indicated below :—

TABLE IX.

<i>District.</i>	<i>Percentage increase over 1961 in the density of population per square kilometre as per 1971 Census.</i>	<i>Percentage decrease over 1961 in the per capita availability of land as per 1971 Census.</i>
(1)	(2)	(3)
Madras	41.36	28.57
Chingleput	36.43	26.32
South Arcot	16.57	16.67
North Arcot	18.15	15.38
Salem	20.98	17.14
Dharmapuri	20.09	18.18
Coimbatore	22.37	20.83
Tiruchirappalli	20.09	17.78
Thanjavur	17.91	16.67
Madurai	22.35	17.95
Ramanathapuram	17.01	15.38
Tirunelveli	17.15	14.29
The Nilgiris	20.50	16.13
Kanyakumari	21.81	17.65
State	22.39	17.95

9. The trend of increase in the density of population is above State average in Madras and Chingleput. It is bordering the State average in Coimbatore and Madurai and in the remaining districts it is below State average. The increase is the lowest in South Arcot and the highest in Madras.

10. Excluding Madras district, the decreasing trend in the per capita land availability in Madurai district is same as State average while it is below State average in South Arcot, North Arcot, Salem, Tiruchirappalli, Thanjavur, Ramanathapuram, Tirunelveli, The Nilgiris and Kanyakumari districts. The decrease is the lowest in Tirunelveli district while it is the highest in Chingleput district.

XV. STATE INCOME.

The State Income estimates provide a comprehensive single indicator of the overall performance of the State's Economy. The per capita State Income indicates the standard of living which a State can afford to its people out of its net domestic product. These estimates over a period of time reveal the degree and direction of change in the pattern of Economic Development. Sectoral composition of State Income gives an idea of the relative position of different sectors like Agriculture, Mining and Manufacturing, Commerce, Transport and Communications, etc., of the State's Economy.

2. In 1960-61 the State Income of Tamil Nadu was Rs. 1,12,956 lakhs at constant prices representing an increase of 17.23 per cent over 1955-56. In 1965-66 the State Income was estimated at Rs. 1,587 crores at current prices as against Rs. 1,288 crores at constant prices. This represents an increase of 14.08 per cent over 1960-61, the average rate of growth being 2.67 per cent per annum. According to quick estimates, in 1970-71 the State Income of Tamil Nadu registered an increase of 24.07 per cent over 1966-67 and 5.6 per cent over the previous year. The rate of growth during the quinquennium ended 1970-71 works out to 5.6 per cent per annum. The overall increase works out to 41.6 per cent when compared with 1960-61. This trend is attributed to the record performance on the agricultural front and foodgrains output in particular during the latter half of the decennium. The following table shows the State Income for the years 1960-61, 1965-66, 1969-70 and 1970-71 :—

TABLE X.

State Income.	1960-61	1965-66	1969-70 (Preliminary estimates).	1970-71 (Quick estimates)
(1)	(2)	(3)	(4)	(5)
(RUPEES IN LAKHS).				
At current prices	1,12,956	1,58,667	2,42,053	2,64,889
At Constant Prices	1,12,956	1,28,838	1,51,380	1,59,881

3. The contribution towards the State Income from the primary sector viz., Agriculture and Allied activities in 1960-61 was estimated at Rs. 554 crores which had represented a nominal increase of 10.18 per cent over 1955-56 at constant prices. The growth rate registered a slight increase of 2.20 per cent in 1961-62 and thereafter upto 1965-66 the growth rate was on the declining trend. This may be attributed mainly to the drought conditions that prevailed in the State and the consequential effects of the

Indo-Pakistan War. The average growth rate for this period works out to -1.17 per cent. From the year 1966-67 onwards the Agricultural Economy of the State gained momentum, directed towards a progressive increase in production. During the period 1966-67 to 1970-71 the average rate of growth in this sector was calculated at 5.09 per cent per annum, and the cumulative increase for the quinquennium was 27.4 per cent. The average annual increase during the decennium ending 1970-71 works out to 2.0 per cent.

4. The contribution of agriculture alone to the State Income in 1960-61 works out to 40.47 per cent at both current and constant prices and in 1970-71 it is 33.83 per cent and 33.79 per cent respectively.

5. The table below indicates the size of contribution of agriculture towards the State Income for the decennium ended 1970-71 :-

TABLE XI.
CONTRIBUTION OF AGRICULTURE TO STATE INCOME.

Years.	Agriculture.		Agriculture and Allied activities.		Percentage contribution.	
	Current.	Constant	Current.	Constant	Agriculture.	Agriculture and allied activities
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1960-61 ..	45,712	45,712	55,490	55,490	40.47	49.13
1961-62 ..	46,963	46,677	57,310	56,713	40.76	49.48
1962-63 ..	44,736	46,751	55,100	56,689	38.55	46.74
1963-64 ..	49,142	46,116	60,165	56,424	37.04	45.31
1964-65 ..	54,773	45,311	65,991	55,548	35.52	43.55
1965-66 ..	55,117	42,378	67,074	52,226	32.89	40.54
1966-67 ..	67,851	44,055	83,226	55,116	32.69	40.90
1967-68 ..	66,665	41,146	83,483	52,564	30.38	38.82
1968-69 ..	72,140	45,328	90,736	57,425	31.60	40.04
Partially revised						
1969-70 ..	82,395	49,775	1,00,359	61,779	32.88	40.81
Preliminary						
1970-71 ..	89,603	54,026	1,08,435	66,571	33.79	41.60
Quick						

CHAPTER III.

MAIN CHARACTERISTICS OF AGRICULTURAL ECONOMY.

I. LAND USE.

Population growth has taken place and will continue because of improvements in medical knowledge and practice. It brings economic hardship to communities having traditional methods of agriculture. But, this is the only force powerful enough to make such communities change their methods and in the long run transform them into much more advanced and productive societies. In Tamil Nadu, as per 1970-71 census figures, there has been a uniform trend in the increase of density of population over 1961 and in all the districts, the magnitude of increase ranging from 17 per cent to 41 per cent as well as a uniformly decreasing trend in per capita availability of land, ranging from 14 per cent to 29 per cent. The per capita cultivable area, as per State Season and Crop Report for 1960-61 and 1970-71, available for the rural population was 0.4 and 0.3 hectare respectively. A statement showing detailed information on pressure of population in Tamil Nadu is given in Annexure 2. Though these trends amply justify the rapidly increasing pressure of population on land, the Agricultural Census 1971 has revealed that the operated area is only 59 per cent of the land available in the State. Besides the additional scope left open for extending the operated area in some of the remaining 41 per cent of the land, the levels of productivity could be intensified by means of successful plant breeding and fertilisation in the existing operated area, as for example has been done in Japan. The trends in the land use pattern (percentages of quinquennial averages) under various types of utilisation over the quinquennia, 1951-56, 1956-61, 1961-66 and 1966-71 as per the State Season and Crop Report, are given in the table below :—

TABLE I.

Quinquennium.	Forests.	Barren and unculturable land.	Land put to non-agricultural use.	Culturable waste.
(1)	(2)	(3)	(4)	(5)
	PER CENT.	PER CENT.	PER CENT.	PER CENT.
1951-56	14.1	7.4	9.9	7.0
1956-61	14.0	7.5	9.8	5.9
1961-66	14.5	6.8	10.3	5.3
1966-71	15.1	6.6	10.9	4.5

	Permanent pastures and other grazing lands.	Land under miscellaneous tree crops and groves not included in sown area.	Current fallows.	Other fallows.	Net sown.
(1)	(6)	(7)	(8)	(9)	(10)
	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
1951-56	2.9	1.9	8.5	5.0	43.3
1956-61	2.9	1.9	7.9	5.1	45.0
1961-66	2.7	2.1	7.3	4.7	46.3
1966-71	2.2	1.9	7.6	4.6	46.4

2. The figures reveal that the second largest utilisation of land in the State is under forests, ranging from 14.1 to 15.1 per cent of the geographical area of the State. Though this falls short of the requirement of the optimum proportion of 33 per cent of the geographical area of the State, steps taken to increase the area coverage over the four quinquennia have resulted in a cumulative increase of 1 per cent or 136,000 hectares. The total area under forests in the State is of the order of 2,013,006 hectares as against 13,004,301 hectares of the geographical area of the State as per 1970-71 State Season and Crop Report figures.

3. The percentage share of districts in the total forest area in the State and the proportionate percentage share of utilisation under forests within the districts during 1970-71 are indicated below :—

TABLE II.

<i>District.</i>	<i>Percentage share of districts in the total forest area in the State.</i>	<i>Percentage share of utilisation under forests within the district.</i>
(1)	(2)	(3)
Chingleput	1.68	4.1
South Arcot	3.19	5.9
North Arcot	15.84	25.9
Salem	8.29	19.4
Dharmapuri	15.76	33.3
Coimbatore	20.10	25.9
Tiruchirappalli	4.82	6.8
Thanjavur	0.70	1.5
Madurai	12.92	20.6
Ramanathapuram	2.26	3.7
Tirunelveli	6.64	11.7
The Nilgiris	5.40	42.8
Kanyakumari	2.40	29.0
State	100.00	

4. The largest share of 20.1 per cent in the State goes to Coimbatore and this constitutes 25.9 per cent of the geographical area of the district and next in order come, one after another, North Arcot (15.84 per cent), Dharmapuri (15.76 per cent), Madurai (12.92 per cent), Salem (8.29 per cent) and Tirunelveli (6.64 per cent) as against their proportionate share of 25.9 per cent, 33.3 per cent, 20.6 per cent, 19.4 per cent and 11.7 per cent within the districts respectively. All these six districts have substantial coverage under hilly areas except North Arcot.

5. The share of the Nilgiris in the State is 5.40 per cent as against 42.8 per cent within the district. 2.40 per cent of the forest area is found in Kanyakumari as against 29.0 per cent of the area within the district. The percentage share of area under forests in respect of Chingleput, South Arcot, Thanjavur, Tiruchirappalli and Ramanathapuram is rather below 5 per cent and their share of utilisation within districts is below 7 per cent.

6. The third largest utilisation is under land put to non-agricultural uses. These figures reveal an upturn of 1 per cent increase manifested over the two decades. This is perhaps due to the increase in the density of population, industrialisation resulting in more buildings, roads, factories, workshops and other constructions. According to 1970-71 Season and Crop Report figures, 11.4 per cent or 1,488,517 hectares are covered under this utilisation. The proportionate percentage share of area within districts except Madras, where the entire area of 12,800 hectares is covered under this item only, is indicated in the table below :—

TABLE III.

<i>District.</i>	<i>Percentage share of area put to non-agricultural use.</i>
(1)	(2)
Chingleput	21.4
South Arcot	9.3
North Arcot	8.7
Salem	6.3
Dharmapuri	8.6
Coimbatore	5.0
Tiruchirappalli	15.8
Thanjavur	20.0
Madurai	8.1
Ramanathapuram	17.4
Tirunelveli	10.3
The Nilgiris	4.6
Kanyakumari	6.4

7. More than one-fifth of the geographical area is put under this utilisation in Chingleput and Thanjavur districts while about one-sixth of the area is found in Tiruchirappalli and Ramanathapuram. More than 5 per cent of the area is utilised under this item in South Arcot, North Arcot, Salem, Dharmapuri, Kanyakumari and Madurai districts while it is 5 per cent and below in Coimbatore and the Nilgiris.

8. The utilisation under barren and unculturable land shows a downward trend in the four quinquennia from 7.4 per cent to 6.6 per cent. Mostly rocks and hills are covered under this group. It is possible that some of these areas might have been cleared for agricultural or non-agricultural purposes. The total area under this item in the State is 832,055 hectares.

or 6.6 per cent as per 1970-71 State Season and Crop Report figures. The proportionate share of utilisation within the districts is furnished below :—

TABLE IV.

<i>District.</i>	<i>Percentage share of area under barren and unculturable land.</i>
(1)	(2)
Chingleput	6.1
South Arcot	14.4
North Arcot	6.2
Salem	10.3
Dharmapuri	8.4
Coimbatore	3.2
Tiruchirappalli	3.4
Thanjavur	3.3
Madurai	6.4
Ramanathapuram	4.3
Tirunelveli	5.3
The Nilgiris	13.3
Kanyakumari	12.1

It is more than 10 per cent in South Arcot, Salem, The Nilgiris and Kanyakumari, while it is below 10 per cent and above 5 per cent in Chingleput, North Arcot, Dharmapuri, Madurai and Tirunelveli. It is below 5 per cent in Coimbatore, Tiruchirappalli, Thanjavur and Ramanathapuram.

9. The utilisation under permanent pastures and other grazing lands, and land under miscellaneous tree crops and groves not included in the net area sown constitutes a very small portion in the State. The trend in the utilisation is on the decline during the four quinquennia ended 1970-71, from 4.8 per cent to 4.1 per cent. The total area under permanent pasture is 230,658 hectares as against 226,446 hectares under miscellaneous tree crops in the State as per 1970-71 figures. Percentage share of utilisation within districts is given in the table below :—

TABLE V.

<i>District.</i>	<i>Permanent Pastures.</i>	<i>Miscellaneous tree crops and groves.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)
	PER CENT.	PER CENT.	PER CENT.
Chingleput	2.8	5.2	8.0
South Arcot	0.9	4.4	5.3
North Arcot	1.5	1.0	2.5
Salem	1.8	0.4	2.2
Dharmapuri	1.2	0.4	1.6
Coimbatore	1.2	0.4	1.6
Tiruchirappalli	3.2	1.5	4.7
Thanjavur	0.7	3.3	4.0
Madurai	1.0	1.6	2.6
Ramanathapuram	0.4	0.7	1.1
Tirunelveli	2.7	1.7	4.4
The Nilgiris	3.5	3.1	6.6
Kanyakumari .. .. .	..	0.4	0.4

10. Adding both items together, the extent of utilisation exceeds 5 per cent in Chingleput, South Arcot and the Nilgiris districts. It is more than 4 per cent in Tiruchirappalli, Thanjavur and Tirunelveli districts, while it is less than 3 per cent in North Arcot, Dharmapuri, Salem, Coimbatore, Madurai, Ramanathapuram and Kanyakumari.

11. There has been a downward trend from 20.5 per cent to 16.7 per cent in the utilisation under culturable waste, current fallows and other fallows combined together during the four quinquennia ended 1970-71. It may perhaps be necessary to take suitable steps to bring down this area to the lowest minimum, since one-sixth of the cultivable area is locked up under this group for some reason or other. Though it may be helpful for ecological reasons to leave some portion of cultivated land to remain as current fallow on rotation basis for a year or crop season in order to recoup the soil fertility, it may not be worthwhile allowing such large chunks of arable land to lie fallow continuously for more than five years.

12. The aggregate of area under these items of utilisation is of the order of 2,044,464 hectares as against a net sown area of 6,169,173 hectares in the State, which accounts for nearly one-third of the net sown area. The percentage break up of the share under these items within districts is indicated below :—

TABLE VI.

District.	Cultivable waste.	Other fallows.	Current fallows.	Total.
(1)	(2)	(3)	(4)	(5)
	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Chingleput	3.5	4.6	6.5	14.6
South Arcot	3.5	3.6	3.6	10.7
North Arcot	3.3	4.2	5.6	13.1
Salem	3.1	4.5	7.2	14.8
Dharmapuri	0.8	1.0	4.2	6.0
Coimbatore	2.5	5.3	10.0	17.8
Tiruchirappalli	4.9	3.8	7.8	16.5
Thanjavur	2.9	2.4	2.5	7.8
Madurai	2.5	3.4	10.1	16.0
Ramanathapuram	7.2	4.9	12.3	24.4
Tirunelveli	5.8	11.3	10.5	27.6
The Nilgiris	8.5	1.3	1.6	11.4
Kanyakumari	1.5	0.8	1.0	3.3

13. It is as much as 27.6 per cent of the geographical area in Tirunelveli and next in order comes Ramanathapuram with 24.4 per cent. In Chingleput, South Arcot, North Arcot, Tiruchirappalli, Madurai, Salem and the Nilgiris the percentages range from 10.7 to 17.8. In Dharmapuri,

Thanjavur and Kanyakumari it is 6.2 per cent, 7.8 per cent and 3.3 per cent respectively. It may perhaps be worthwhile examining the reasons for the considerable variations between districts. An interesting contrast will be between Tirunelveli and the neighbouring district Kanyakumari, the former showing the highest proportion of 27.6 per cent while the latter showing the lowest proportion of 3.3 per cent coverage in the State. Perhaps the dissimilar terrain is one reason. Similar contrasts between the neighbouring districts are found in (1) Salem (14.8 per cent) and Dharmapuri (6.2 per cent) and (2) Thanjavur (7.8 per cent) and Tiruchirappalli (16.5 per cent).

14. The major item amongst the ninefold classification of utilisation of land relates to net area sown. The percentages of quinquennial averages indicate an upturn from 43.3 per cent during the five year 1951-55 to 46.6 per cent during 1966-71. Over a period of two decades the average percentage increase works out to 3.3 per cent or 453,000 hectares which is rather meagre. The quinquennial average for 1951-56 was 1.7 per cent as against 1.3 per cent and 0.3 per cent during the third and fourth quinquennia respectively thus revealing a deteriorating trend.

15. The proportionate share of this utilisation within districts out of the total sown area of 6,169,173 hectares or 47.5 per cent of the geographical area in the State during 1970-71 is indicated below :—

TABLE VII.

<i>District.</i>	<i>Percentage share of net sown area.</i>
(1)	(2)
Chingleput	40.7
South Arcot	54.4
North Arcot	43.8
Salem	47.0
Dharmapuri	42.3
Coimbatore	46.6
Tiruchirappalli	52.9
Thanjavur	63.3
Madurai	46.3
Ramanathapuram	49.2
Tirunelveli	40.7
The Nilgiris	21.8
Kanyakumari	48.6

16. The net area sown is the largest (63.3 per cent) in Thanjavur while it is the lowest (21.8 per cent) in the Nilgiris. Tiruchirappalli and South Arcot account for 52.9 per cent and 54.4 per cent respectively. It ranges between 40.7 per cent and 49.2 per cent in North Arcot, Chingleput, Dharmapuri, Salem, Coimbatore, Madurai, Ramanathapuram, Tirunelveli and Kanyakumari.

II. CROPPING PATTERN.

The cropping pattern in general so far as it relates to major items of crops in Tamil Nadu over a period of two decades ending 1970-71, has not undergone any spectacular change, such as diversion of area from one crop to another or new crop replacing another crop, etc. The average gross

cropped area during the five years 1951-56 compared with the average area during the quinquennium 1966-71 shows a difference of 582,000 hectares or 8.07 per cent increase as indicated by the figures below : —

TABLE VIII.

Items.					Average gross cropped area during the quinquennium ended.			
					1951-56.	1956-61.	1961-66.	1966-71.
(1)					(2)	(3)	(4)	(5)
					PER CENT.	PER CENT.	PER CENT.	PER CENT.
1. Paddy	..	..	..	..	30.1	33.4	36.0	35.7
2. Cholan	..	..	..	..	11.3	10.8	10.5	10.2
3. Cumbu	..	..	..	..	9.1	7.3	6.3	6.3
4. Ragi	..	..	..	..	5.4	5.1	4.6	4.2
5. Pulses	..	..	..	..	6.7	6.3	5.7	6.3
6. Other Cereals and Millets				..	9.8	7.5	7.0	6.6
					72.4	70.4	70.1	69.3
7. Cotton	..	..	..	..	5.6	5.9	5.2	4.0
8. Sugarcane	..	..	..	..	0.7	0.9	1.1	1.7
9. Oil seeds, Groundnut, Gingelly and Castor.					13.2	13.3	14.5	15.3
10. Other crops	..	..	..	..	8.1	9.5	9.1	9.7
					27.6	29.6	29.9	30.7
11. Total gross area (In '000 hectares).					(6,633)	(1,995)	(1,199)	(7,215)
Total ..					100.0	100.0	100.0	100.0

2. The quinquennial averages expressed as percentages in respect of foodgrains which stood at 72.4 per cent during 1951-56 has decreased to 69.3 per cent during 1966-71. It is trending towards the opposite direction in the case of non-food grains showing an increase of 3 per cent, a diversification more strikingly manifested in oil seeds and sugarcane crops. Generally the trend is on the increase in respect of paddy, sugarcane, oil seeds and other crops while in respect of all the remaining items it is on the decline, and marked in the cases of cumbu, other cereals and millets. The percentages of gross cropped area districtwise as per 1970-71 figures of the Season and Crop Report are indicated below :—

TABLE IX.

<i>District.</i>	<i>Gross area sown.</i>	<i>Food grains.</i>	<i>Other than food- grains.</i>
(1)	(2)	(3)	(4)
	• HECTARES.	PER CENT.	PER CENT.
Chingleput	462,432	83.52	16.48
South Arcot	753,447	73.63	26.37
North Arcot	676,934	70.15	29.85
Salem	474,069	70.81	29.19
Dharmapuri	465,630	83.62	16.38
Coimbatore	836,192	69.47	30.53
Tiruchirappalli	834,275	81.33	18.67
Thanjavur	882,305	87.28	12.72
Madurai	653,748	74.17	25.83
Ramanathapuram	624,422	75.64	24.36
Tirunelveli	551,350	69.63	30.37
The Nilgiris	54,584	35.42	64.58
Kanyakumari	114,618	78.79	21.21
Total ..	7,384,006	69.75	30.25

3. The diversification of cropping pattern from food to non-food grains is quite significant in the case of the Nilgiris, Coimbatore and Tirunelveli. Much concentration on foodgrains is found in Chingleput, Dharmapuri, Tiruchirappalli and Thanjavur.

III. SYSTEMS AND SOURCES OF IRRIGATION.

Irrigation is one of the major planks in the Agricultural Economy since it stabilises agricultural productivity rates and serves as an essential pre-requisite for the success of high yielding strategy and multicropping. In Tamil Nadu, irrigation systems, both major and minor, are covered under Government canals and tanks. The aggregate irrigation potential created by the above sources works out to 1.27 million hectares in the State, spread over all the 13 districts. A list of systems in the State, with the size of irrigation potential is enclosed as Annexure 3. The most significant of the 45 systems available in the State is the Cauvery Delta system with a command area of 3.78 lakh hectares contributing a major share towards agricultural production in the State. Next in order comes the Cauvery-Mettur system with 1.04 lakh hectares, Parambikulam-Aliyar Project with 0.97 lakh hectare and Lower Bhavani Reservoir with 0.84 lakh hectare. All the remaining 41 systems have a coverage below 0.8 lakh hectare each. The total potential created by these 41 systems works out to 6.02 lakh hectares or 47.59 per cent of 1.27 million hectares.

2. Detailed information relating to various systems developed during the Plan periods and commissioned for irrigation and projects under execution are given in Annexure 4 and Annexure 5. Projects completed include (1) New projects, (2) Projects developed for bridging existing gaps and (3) Projects developed for stabilisation of the existing ayacuts.

3. The particulars of the irrigation potential created during the first three Plan periods and Annual Plan period are indicated below :—

TABLE X.

	<i>Period.</i>	<i>Number of projects.</i>	<i>Irrigation potential in lakh hectares.</i>
	(1)	(2)	(3)
I	1955-56	9	2.37 (88.8 per cent).
II	1960-61	4	0.21 (7.9 per cent).
III	1965-66	4	0.07 (2.6 per cent).
IV	1966-67	1	0.02 (0.7 per cent).

4. In addition to the potential created during the Plan periods as indicated above, two major systems covering 1.16 lakh hectares and 12 medium size systems (a list enclosed as Annexure 5) covering 0.74 lakh hectare are under execution. On completion, these systems are expected to create an additional irrigation potential of 1.9 lakh hectares in the State.

5. All the available irrigation sources in the State are broadly grouped under four categories, i.e., (1) Government Canals, (2) Tanks, (3) Well with sole irrigation and (4) other sources including private canals. Average area irrigated from these sources during each of the five years period is indicated in the table below :—

TABLE XI.

<i>Period.</i>	<i>Area irrigated in '000 hectares.</i>				<i>Total. (2+3+4+5).</i>
	<i>Government canals.</i>	<i>Tanks.</i>	<i>Well-sole irrigation.</i>	<i>Other sources including private canals.</i>	
(1)	(2)	(3)	(4)	(5)	(6)
I 1951-56	768 (37.2 per cent).	762 (36.9 per cent).	482 (23.4 per cent).	52 (2.5 per cent).	2,064 (100 per cent).
II 1956-61	837 (36.5 per cent).	869 (37.9 per cent).	546 (23.8 per cent).	41 (1.8 per cent).	2,293 (100 per cent).
III 1961-66	878 (35.8 per cent).	919 (37.5 per cent).	615 (25.0 per cent).	43 (1.7 per cent).	2,455 (100 per cent).
IV 1966-71	880 (34.9 per cent).	897 (35.5 per cent).	709 (28.1 per cent).	39 (1.5 per cent).	2,525 (100 per cent).

6. It may be seen from the table above that the progressive trends of achievement under the first three sources are illustrative of the impact of the irrigation potential created during the first three Five-Year Plans. There is an overall progressive trend under canals, while the trend is discontinued during the fourth quinquennium in the case of tank irrigation and other sources.

7. There is a sustained trend under well irrigation over the four quinquennia. Nearly one-third of the irrigated area is covered under this source in the State. The rate of growth during the last quinquennium in the case of tank irrigation is very meagre. The total achievement at the end of each Five-Year period (all sources put together) in the State has shown an increase over the previous quinquennium and this trend has been maintained throughout without any discontinuity.

8. The percentages of net and gross area irrigated during the four quinquennia are indicated below :—

TABLE XII.

Period.					Net area irrigated as percentage of net area sown.	Gross area irrigated as percentage of gross area cultivated.	More than once irrigated area as percentage of net area irrigated.
	(1)	(2)	(3)	(4)			
I 1951-56		36.8	40.7	30.86			
II 1956-61		39.3	43.1	31.62			
III 1961-66		40.7	45.0	32.10			
IV 1966-71		41.7	46.1	31.64			

9. The rising trend in the net and gross area irrigated is sustained through the quinquennia. The upturn in the growth rate has been significant during the second quinquennium. The trend in the area irrigated more than once in the State is sustained around 30 per cent of the net area irrigated through the quinquennia.

IV. CROPPING INTENSITY AND YIELD RATE OF PRINCIPAL CROPS.

High productivity on the limited land resources available for feeding the rapidly increasing population could be achieved only by intensification of cultivation, viz., maximisation of yield rates and increasing the harvests to maximum number. The initial propelling source to support intensification is irrigation and then come other inputs. Much advance has been made towards developing adequate number of irrigation systems and highly efficient specified means of production during the course of four Plan periods, so as to ensure sustained increase in productivity rates. In this context it would be worthwhile to examine the impact of these measures in a general way with reference to cropping intensity and yield rates in the State during the past two decades ending 1970-71.

2. The quinquennial averages of net and gross cropped area and the difference between these two, expressed in percentages are indicated in the table below :—

TABLE XIII.

Quinquennium.	Net area sown.	Gross cropped area.	More than once cultivated area in percentage.
(In ' 000 Hectares.)			
(1)	(2)	(3)	(4)
I—1951-56	5,606	6,633	18.32
II—1956-61	5,840	6,995	19.78
III—1961-66	6,026	7,190	19.47
IV—1966-71	6,059	7,215	19.08

3. The significance of the upturn in the area sown more than once is quite pronounced during the second Plan period while the trend is sustained around 19 per cent during the successive periods. An upward trend in respect of net and gross cropped area is maintained all through the quinquennia. The net average increase during 1966-71 compared with 1951-56 works out to 582,000 hectares showing a cropping intensity of 119 per cent in the State. Irrigation as a propelling source to support intensification is borne out by the figures indicated in the table below :—

TABLE XIV.

Quinquennium.	Area sown more than once.	Area irrigated.	Item (3) expressed as percentage of (2).
(In ' 000 Hectares.)			
(1)	(2)	(3)	(4)
I—1951-56	1,027	637	62.03
II—1956-61	1,155	725	62.77
III—1961-66	1,173	788	67.18
IV—1966-71	1,156	799	69.12

4. The proportion of irrigated area ranges from 62.03 per cent during 1951-56 to 69.12 per cent during 1966-71. The upward trend is sustained all through the quinquennia. It may perhaps be reasonable to assume that this trend should be reflected on the yield rates of irrigated crops provided that the other specialised factors of production are made available to these crops.

5. The yield rates of principal crops in the State during the four quinquennia are indicated in the table below :—

TABLE XV.

Average for the quinquennium ended (Kg./Hec.)

Crop.	Average for the quinquennium ended (Kg./Hec.)			
	1955-56.	1960-61.	1965-66.	1970-71.
(1)	(2)	(3)	(4)	(5)
Rice	1,249	1,417	1,495	1,570
Cholam	590	754	749	745
Cumbu	408	559	636	672
Ragi	937	994	982	1,015
Bengalgram	457	537	546	533
Redgram	398	448	462	459
Pulses (other than Bengalgram and Redgram).	196	232	231	231
Sugarcane (In terms of gur).	6,904	7,277	8,324	8,873
Cotton (lint)	132	157	168	193
Groundnut (unshelled)	1,073	1,195	1,106	890
Gingelly seed	288	322	316	315
Castor	397	410	417	421

6. There is a spurt in the yield rates of all the crops during the second five-year period while the tempo is rather slowed during the successive two quinquennia.

7. The rising trend in the yield rates of the major irrigated crops, i.e., rice and sugarcane is illustrative of the assumption that intensity of cropping under irrigated conditions accompanied by specialised means of production increases productivity rates. A very large proportion of the cultivated area in the State is covered under these two crops. The order of increase during the fourth quinquennium compared with the first quinquennium is 25.7 per cent in the case of rice and 28.5 per cent in the case of sugarcane.

8. There is discontinuity in the upward trend in the yield rates of bengalgram, redgram, pulses, groundnut and gingelly seeds during the last quinquennium. The quinquennial averages of yield rates of crops during 1966-71 compared with 1951-56 showing the difference by way of increase or decrease in percentages are indicated in the table below :—

TABLE XVI.

Serial number and name of crop.

Average increase in percentage.

Average decrease in percentage.

(1)	(2)	(3)
1 Rice	25.70	..
2 Cholam	26.27	..
3 Cumbu	64.71	..
4 Ragi	8.32	..
5 Bengalgram	16.63	..
6 Redgram	15.33	..
7 Pulses (other than Bengalgram and Redgram).	17.86	..
8 Sugarcane	28.52	..
9 Cotton	46.21	..
10 Groundnut (unshelled) .. .. .	..	17.05
11 Gingelly seed	9.38	..
12 Castor	6.05	..

The yield rates of cumbu and cotton, only partly irrigated crops, have shown a tremendous increase over the decades and next in order come the major irrigated crops, (viz.) sugarcane, rice and cholam.

V. USE OF IMPROVED SEEDS.

Agricultural production depends as much upon the status of the cultivator and the size of the holding as upon the quality of the soil and the type of inputs used. The cultivators were indifferently selecting the seed which results in smaller yield of sub-standard produce. The importance of good quality and disease resisting seeds therefore, needs no emphasis. In recent years, the State Agricultural Department has made great strides in the development of improved seeds.

2. The distribution of improved seeds of paddy and millets is one of the important functions of the Agricultural Department from its inception for increasing production and for maintenance of quality. The department aims to cover one-third of the total cultivated area under improved seeds each year. The department produces foundation seeds in its Seed Centres under the direct supervision of its officials. The primary seeds required to raise the secondary seeds are produced in the State Seed Farms and these are again multiplied in the Seed Centres as secondary seeds for distribution through the Agricultural Depots. These farms also serve as model farms.

3. The particulars regarding distribution of improved seeds are furnished in the following table :—

TABLE XVII.

Serial number and Quinquennium ended.				Distribution of improved seeds in metric tonnes.			
				Paddy.		Millets.	
				Primary.	Secondary.	Primary.	Secondary.
(1)				(2)	(3)	(4)	(5)
1	1955-56	—	—	N.A.	N.A.	N.A.	N.A.
2	1960-61	..	..	8,814	90,934	1,112	7,370
3	1965-66	..	..	13,683	1,77,545	1,403	17,463
4	1970-71 (Upto 1969-70 only).			12,571	1,47,391	1,274	16,020

VI. USE OF FERTILISERS.

The pressure of population on land has reduced the area kept fallow for reviving fertility. The State is in a position to produce many varieties of crop on account of its varied climate and soil; but the deficiency of soil is an impediment that comes in the way of making agriculture broad-based. The need for chemical fertilisers has become more apparent culminating in sustained efforts towards self-sufficiency in the production and timely distribution of chemical fertilisers.

2. The fertilisers allotted by the Government of India to Tamil Nadu from the Central Pool are being distributed in this State under a Government Trading Scheme on "no profit-no loss basis". Based on the requirements given by the Directorate of Agriculture, the Board of Revenue sends indent and gets the requirements of fertilisers from the Government of India for supply under "Pool". The "Pool" fertilisers are issued to various districts. The District Marketing Societies, who are the Government stockists, stock the fertilisers. From them, the Taluk Marketing Societies take delivery and supply to other Co-operatives and Panchayat Unions.

3. The indigenous producers like FACT, MFL, NLC and EID Parry also supply straight fertilisers to their retailers. There are manure mixing firms in the State and sizeable quantities are supplied to them also for preparing various approved grades of mixture. The indigenous firms have retail selling points all over the State and their products are sold to the public through their agencies. There are 8,491 wholesale and retail sale points. The fertilisers are marketed as straight, complex and mixtures.

4. The following table illustrates the consumption of fertilisers in Tamil Nadu during the period 1951-52 to 1970-71.

TABLE XVIII.

Serial number.	Quinquennium ended.				Consumption of fertilisers in terms of NPK (in lakh tonnes).		
					N	P	K
(1)	(2)				(3)	(4)	(5)
1	1955-56	..	..	..	0.757	0.157	..
2	1960-61	..	..	..	1.353	0.178	..
3	1965-66	..	..	..	2.780	0.740	0.410
4	1970-71	..	..	..	6.150	2.230	1.770

There has been a progressive increase in the consumption of fertilisers in this State. Continual efforts are taken to meet the entire requirements of the ryots of the State to further quicken agricultural advancement.

VII. HIGH YIELDING VARIETIES PROGRAMME.

The High-Yielding Varieties Programme is in operation in this State from 1968-69. The objective of this programme is to revolutionise agriculture through an integrated approach of introduction of high-yielding varieties of paddy and millets, optimum usage of better seeds and fertilisers and simultaneous provision of credit facilities. The area brought under the High-Yielding Varieties Programme in the year 1970-71 is of the order of 18.18 lakh hectares. This represents two-thirds of the total area under paddy in that year and is in excess of the target fixed by 3 lakh hectares. Similarly the area covered under millets in that year is of the order of 1.15 lakh hectares as against the targetted area of 1.01 lakh hectares.

2. The targets and achievements under this Programme during the year 1970-71 are shown in the table below :—

TABLE XIX.

Serial number.	Crop.				Target.	Achievement (Area in lakh hectares).
(1)	(2)				(3)	(4)
1	Paddy	..	..	..	15.18	18.18
2	Hybrid Millets (irrigated)	..	..	..	1.01	1.15
3	HB 3 Cumbu (Crash Programme)	..	..	..	0.61	0.54
Total (Paddy and Millets)					16.80	19.87

VIII. MULTIPLE CROPPING PROGRAMME.

The General Multiple Cropping Programme is being implemented in Tamil Nadu from the year 1967-68. Under this Programme, intensified efforts are now channelised—

(i) for double crop conversion in Thanjavur district and also other single crop project areas under Sathanur Project in North Arcot district, Krishnagiri Project in Dharmapuri district, Veeranam Tank in South Arcot district, etc. ;

(ii) through minor irrigation schemes like digging of new wells, deepening of existing wells, sinking filter points and tube-wells, boring in wells, etc. Construction of new minor irrigation tanks, spring channels, repairs and improvements, minor irrigation sources, etc., and through increasing the coverage by supply of oil engines and electric motors, etc. ;

(iii) through cultural practices by substitution of long duration with short duration varieties, raising of cash crops like pulses, gingelly, etc., ratooning of crops, under cropping in coconut and fruit plantations, inter-cropping in tapioca and banana cultivation, etc.

The success of the Multiple Cropping Programme will be a reality only if relay cropping in single cropped irrigated areas is adopted and by bringing suitable changes in the existing cropping patterns and rotations.

2. The achievements so far made under the Multiple Cropping Programme are as follows :—

TABLE XX.

Year.	Target.	Cumulative achievement (area in lakh hectares).
(1)	(2)	(3)
1967-68	1.84	0.87
1968-69	4.05	2.24
1969-70	4.05	4.03
1970-71	4.86	5.26

Due to drought conditions during the years 1967-68 and 1968-69, the targetted area under this Programme could not be achieved in full. Of the total area covered in the year 1970-71, paddy accounted for 2.06 lakh hectares and other crops 3.20 lakh hectares.

IX. PLANT PROTECTION SCHEME.

The idea of affording sufficient protection to the crops and plants has taken firm roots in the minds of farmers and it has become one of the accepted agricultural practices in farming. To encourage the use of plant protection chemicals, the State has been distributing plant protection chemicals at concessional rates. A subsidy of 15 per cent is allowed on all plant protection chemicals. To ensure timely distribution of plant protection chemicals, they are distributed from the Panchayat Union Agricultural Depots as well as through Co-operatives.

2. The incidence of pest and disease is being forecast every week from the particulars received from the various agricultural divisions by the Entomologists and forecast reports are being sent to all District Agricultural Officers and Panchayat Unions so as to enable them to initiate precautionary measures.

3. The pesticides are being distributed to ryots in appropriate time at concessional rates. The District Agricultural Officers are instructed to stock adequate quantity of plant protection chemicals to meet the demand of the ryots. If a particular chemical is not available in certain areas due to heavy off-take, substitute chemicals are being distributed and steps are taken to make available the required chemicals through internal transfers.

4. When pests appear in very large areas in epidemic form, quick methods of control have to be adopted for effective and successful results. Aerial spraying is the only answer to this problem. During the recent years the programme of pest control through aerial spraying has become increasingly popular with the farmers of Tamil Nadu. The results obtained in the previous years have been so encouraging that the tempo of the aerial spraying programme has increased year after year. During the year 1970, an area of 6.97 lakh acres was covered under the aerial spraying programme. It is also worthy of mention that during the year 1970-71, Tamil Nadu accounted for nearly 60 per cent of the total area covered under aerial spraying in entire India.

5. The hand-operated Sprayers and Dusters and power-operated Dusters-cum-Mist Blowers have been popularised during recent years. To encourage the farmers to purchase more of essential equipments, the State has been allowing a subsidy of 25 per cent on the cost of the above equipments. These equipments are distributed through Panchayat Unions. In addition to the hand-operated Sprayers and Dusters distributed to the farmers there are five Plant Protection Pools attached to the five Deputy Directors' Regions. Each Plant Protection Pool is provided with sufficient number of Sprayers and Dusters. These equipments are serviced and maintained periodically with the help of a mechanic attached to each pool. These mechanics also train the field staff in the proper use and maintenance of these equipments. There is a proposal to increase the number of these mechanics so that there will be at least one for each block so as to ensure that the equipments are kept in perfect operating condition. There is also a proposal to start mobile workshops for servicing all agricultural equipments including plant protection appliances. In view of the great demand for these equipments, it is also proposed to strengthen this unit by purchasing 500 power-operated Dusters-cum-Mist Blowers every year.

X. MECHANISATION OF AGRICULTURE.

Mechanised farming ensures economies of production. However, small units of production and fragmented and scattered nature of holdings provide little scope for any large scale mechanisation of agriculture. Despite this handicap, the use of agricultural machinery and improved implements in the agricultural operations is continuously increasing. The Tamil Nadu Agro-Industries Corporation, which is the sole agency for distributing imported tractors, has sold 2,145 tractors so far besides distributing power tillers. The Corporation is also constructing a modern workshop at a cost of Rs. 5.82 lakhs for the manufacture of farm implements, expected to commence from 1973-74. The Corporation has also drawn up a scheme for giving training to the unemployed but technically qualified persons to enable them to start Agro-Service Centres. Financial assistance is available for purchase of agricultural machinery like tractors through institutions.

XI. ANIMAL HUSBANDRY.

Agriculture and livestock are so closely intertwined that their relative importance in the rural economy can hardly be under estimated. Tamil Nadu is richly endowed with large number of cattle and other livestock. The population of livestock in Tamil Nadu for the quinquennial periods commencing from 1951 is detailed below :—

TABLE XXI.

Serial number and category.	Population in thousands.			
	1951.	1956.	1961.	1966.
(1)	(2)	(3)	(4)	(5)
1 Cattle	10,161	9,698	10,826	10,859
2 Buffaloes	2,285	2,041	2,594	2,724
3 Sheep	7,926	7,042	7,160	6,621
4 Goats	4,013	3,757	3,429	3,771
5 Other Livestock	539	626	629	594
6 Poultry	8,306	10,416	11,293	11,226

The districtwise population of livestock according to the census conducted last in the year 1966 is shown in the statement at Annexure 6.

2. The growth of population of cattle, buffaloes and poultry observed in the recent years will bolster rural economy. South Arcot, Thanjavur, North Arcot, Tiruchirappalli and Coimbatore districts have more than one million heads of cattle each. The population of buffaloes is sizeable in Coimbatore, Thanjavur, Tiruchirappalli, Chingleput and Madurai districts. More than a million poultry birds are in Tiruchirappalli, Madurai, Ramanathapuram and Thanjavur districts.

3. Tamil Nadu possesses over 10.86 million heads of cattle and 2.72 million heads of buffaloes. This is nearly 20 per cent of the total livestock population of the country. It is estimated that cattle contributes annually about Rs. 470 crores which includes the gross return by bullock power—Rs. 309 crores and milk—Rs. 103 crores. The contribution by poultry has been estimated at Rs. 23 crores and that by sheep and goats Rs. 47 crores.

4. The contribution of livestock products to the State Income is sizeable and to Agricultural Income it is much more so. To further augment the income from the animal husbandry sector, various developmental measures are periodically taken up by the Government. These measures lay emphasis on providing stimulus to the breeding of good cattle, focussing attention on the urgent need for improvement of livestock, undertaking research on diseases with the objective of prevention and control of epidemics, improving the quality of fodder and finding solutions to problems faced in the development of poultry.

5. During the First Five-Year Plan, a sum of Rs. 51.15 lakhs was spent on the development of animal husbandry. Some of the important development schemes undertaken during that period were setting up of District Livestock Farms, Key Villages Scheme for livestock improvement, Artificial Insemination of cattle and distribution of male breeding stock.

6. The Second Five-Year Plan provided greater impetus to the development of animal husbandry. A sum of Rs. 200.15 lakhs was spent on implementation of various schemes, notable among them being Key Villages Scheme for Cattle Development, Supplementary Extension Centres for the utilisation of bulls produced in Key Villages, Poultry Development in Key Village, Community Development and National Extension Areas, Establishment of new Cattle Farm and Veterinary Education and Research.

7. The Third Five-Year Plan sustained the tempo of development of animal husbandry with an expenditure of Rs. 341.20 lakhs. Establishment of three Livestock Farms including Buffalo Farm, expansion of State Livestock Farms, opening of Veterinary Dispensaries, procurement and distribution of bulls, setting up of new Key Village Blocks, Calf Subsidy, establishment of new Poultry Extension Centres and production of freeze dried rinderpest vaccine are some of the major schemes undertaken during the Third Plan period.

8. A "Crash-Programme" was launched in the period 1964-66 with certain specific objectives like establishment of Intensive Cattle Development Projects, setting up of Intensive Egg and Poultry Production-cum-Marketing Centre, providing credit facilities to Poultry Farming, establishment of Poultry Extension Centres and Sheep Development. The Crash Programme involved an expenditure of Rs. 182.03 lakhs.

9. During the three Annual Plan periods 1966-67, 1967-68 and 1968-69, a total expenditure of Rs. 275.01 lakhs was incurred to maintain the tempo of development under Intensive Cattle Development Projects, expansion of Poultry Extension Centres, new blocks under Key Village Scheme, Intensive Egg and Poultry Production-cum-Marketing Schemes, Piggery Development Blocks and Piggery Farm, opening of Veterinary Dispensaries, Grants to Panchayat Unions and other schemes.

10. The Fourth Five-Year Plan has provided for various development measures on animal husbandry at a larger estimated cost of Rs. 735.59 lakhs. Opening of Veterinary Dispensaries, Scheme for Control of Rinderpest in the State, Intensive Cattle Development Project, Key Village Schemes, Intensive Egg and Poultry Production-cum-Marketing Centres, establishment and expansion of Poultry Extension Centres and Grants to Panchayat Unions for implementation of animal husbandry schemes are some of the projects that receive continued special attention under Fourth Plan.

XII. DAIRYING.

The development of the dairy industry on modern lines with the use of up-to-date appliances and methods especially in handling milk and manufacturing butter is engaging the attention of the Government. Like the Green Revolution on the agricultural front, the State is directing its efforts towards accomplishment of a White Revolution on this front. The Tamil Nadu Dairy Development Corporation has been recently constituted to accelerate dairy development.

2. The Madras Central Dairy and the Madurai Milk Project are the two large scale Government milk projects in the State. Twenty-three Milk Co-operative Unions and 1,126 Milk Co-operative Societies are engaged in the collection and distribution of milk in the urban areas of the State. The quantity of milk distributed by these agencies is shown in the following table :—

TABLE XXII.

<i>Serial number.</i>	<i>Agency.</i>	<i>Quantity of milk distributed in 1970-71 in lakh litres.</i>
(1)	(2)	(3)
1	Madras Project	210.28
2	Madurai Project	64.97
3	Milk Co-operative Unions and Societies.	823.00
	Total ..	1,098.25

3. The milk distribution under organised sector is registering steady increase. However, it is the private sector that accounts for larger share of milk distribution in the State.

XIII. HOUSEHOLD INDUSTRIES.

Many of the household industries of Tamil Nadu find their origin in the hoary past. These industries are usually unorganised and they produce articles of common utility. Through the cottage industries and handicrafts, the State and the country have earned an enviable position among the nations both in ancient and modern times.

2. Among the cottage industries, the handloom industry plays a key role in the economy of the State. This industry is ancient and has passed through many vicissitudes. Tamil Nadu is unique for its silk sarrees, cotton lungies, bedspreads and other handloom products. It provides livelihood for more than two million persons and it ranks in importance in the economy of the State next only to agriculture.

3. The State has more than 5.25 lakh looms, majority of them producing cotton cloth. Tamil Nadu is the leading producer and exporter of handloom cloth among the States. The particulars of estimated production of handloom cloth in the State are furnished below :—

TABLE XXIII.

<i>Serial number</i>	<i>Year.</i>	<i>Estimated production in million metres.</i>
(1)	(2)	(3)
1 1960-61		409
2 1965-66		531
3 1970-71		602

The handloom varieties produced in Tamil Nadu find markets in Far East Countries, East African Countries and United Kingdom. The handloom export figure for the period April 1970 to January 1971, is of the order of 13,703,000 metres valued at Rs. 389.21 lakhs.

4. The handicrafts include metal working, coir industry, mat weaving, sericulture, etc. The Government evince keen interest in the promotion of these industries. The Government extend their financial assistance to these industries and the artisans engaged therein through co-operatives.

XIV. RURAL ELECTRIFICATION PROGRAMME.

As 70 per cent of the population of Tamil Nadu live in the villages, rural electrification is of utmost importance for developing the economy of the countryside. With this in view, special attention is being given to rural electrification for (i) raising the standard of living of rural population, (ii) bringing within the reach of rural population the amenities due to electricity enjoyed by the urban population and (iii) bringing about a "Green Revolution" in agriculture through lift irrigation by electric pumpsets and increasing the food production in the State.

2. Tamil Nadu maintains an impressive record of achievement under the rural electrification programme. The number of towns, villages and hamlets electrified during the period 1951-71 are given below :—

TABLE XXIV.

<i>Serial number.</i>	<i>Quinquennium ended.</i>	<i>Number.</i>
(1)	(2)	(3)
1	1955-56	1,883
2	1960-61	6,745
3	1965-66	11,149
4	1970-71	24,345

A statement showing the districtwise number of towns, villages and hamlets electrified as on 1st March, 1973 is given in Annexure 7. It has been programmed to cover all the villages and hamlets in Tamil Nadu under rural electrification by 1973-74.

3. Special efforts have also been taken to extend electricity to all hamlets and Harijan colonies along with electrification of main villages so that the benefit of extension of electricity would be wide spread. This is an unique achievement of Tamil Nadu when compared to other States. The particulars regarding the number of Harijan colonies electrified during the quinquennial periods are given below :—

TABLE XXV.

<i>Serial number.</i>	<i>Quinquennium ended.</i>	<i>Number of Harijan colonies electrified.</i>
(1)	(2)	(3)
1	1960-61	939
2	1965-66	2,609
3	1970-71	10,725

During the period 1971-72 and 1972-73 (upto February 1973), about 9,000 Harijan colonies have also been electrified leaving only about 18 per cent of the colonies in the State yet to be electrified. A statement showing the districtwise number of Harijan colonies electrified as on 1st March 1973 is given in Annexure 8.

4. The achievement of this State in the field of energisation of agricultural pumpsets for lift irrigation is no less impressive. Out of a total of an estimated number of 12 lakh wells in the State, 6,44,073 pumpsets (i.e., more than 50 per cent) have been energised as on 1st March 1973. Tamil Nadu has been a pioneer in the field having accounted for about 30 per cent of the total number of pumpsets energised in whole of India. About 60,000 to 80,000 pumpsets are to be energised every year as per a phased programme, subject of course to availability of funds.

5. The following table illustrates the achievement of this State in the field of energisation of pumpsets in the period 1951-1971 :—

TABLE XXVI.

<i>Serial number.</i>	<i>Quinquennium ended.</i>	<i>Number of pumpsets energised.</i>
(1)	(2)	(3)
1	1955-56	19,771
2	1960-61	86,675
3	1965-66	139,505
4	1970-71	270,320

A statement showing the districtwise number of pumpsets energised as on 1st March, 1973 is given in Annexure 9.

6. The lift irrigation by electricity has brought a change in the cropping pattern by causing a shift from dry crops to wet crops and from low yielding to high yielding crops. Further, the area under irrigation has more than doubled in respect of the crops such as paddy, cholam, cotton, sugarcane, etc. The overall benefit to food production in the State due to lift irrigation by energisation of pumpsets has been roughly estimated at Rs. 77 crores.

7. Industrial development in coal-scarce Tamil Nadu is a difficult process. The upsurge in industrial development now witnessed in Tamil Nadu has been made feasible by sustained efforts towards more power generation and intensive electrification of areas. In the rural sector, power is being used for rice hulling, flour milling, oil pressing, sugarcane crushing, small workshops, talkies, cotton ginning, tape weaving, powerlooms and other miscellaneous industries. The phenomenal growth in these industries in the rural sector over periods is illustrated in the following table :—

TABLE XXVII.

<i>Serial number and type of industry.</i>	<i>As on 31st March 1967.</i>		<i>As on 31st March 1971.</i>	
	<i>Number.</i>	<i>Connected load in KW.</i>	<i>Number.</i>	<i>Connected load in KW.</i>
(1)	(2)	(3)	(4)	(5)
1 Rice Hulling and Flour Milling.	4,744	67,489	10,355	1,32,959
2 Oil pressing	706	9,652	969	19,327
3 Sugarcane crushing .. .	73	901	184	3,274
4 Cotton Ginning	294	658	950	5,078
5 Tape weaving	228	2,429	811	7,089
6 Talkies	198	2,826	650	4,450
7 Miscellaneous Industries ..	14,584	59,959	28,500	2,27,156
8 Unclassified .. ..	..	..	9,101	50,345
Total ..	20,827	1,43,914	51,520	4,49,678

Intensive rural electrification has improved the economic status of the rural population by increasing the productivity and also promoted rural welfare by providing an environment equal in comfort and convenience to that enjoyed by the urban population.

8. Rural electrification has caused a remarkable impact on the social sphere also, since about 94 per cent of the population are covered by electrification. Domestic services have been provided wherever the public asked for availing of supply. Other important social activities of rural electrification cover the special attention given to electrification of Harijan colonies and street lighting in those areas.

9. Under rural electrification, consumption is classified under **five** categories, viz. (i) Domestic, (ii) Commercial, (iii) Street lighting, (iv) Industrial and (v) Agricultural. The consumption in rural areas during 1970-71 was as follows :—

TABLE XXVIII.

<i>Serial number.</i>	<i>Category.</i>	<i>Consumption in mn units.</i>
(1)	(2)	(3)
(i)	Domestic	88-148
(ii)	Commercial	96-969
(iii)	Street lighting	31-615
(iv)	Industrial	1,464-280
(v)	Agricultural	1,172-786
	Total ..	2,853-798

Out of the total consumption of 5,296.76 mn. units in 1970-71 in the State under the above categories, the rural areas accounted for 2,853.798 mn. units representing about 54 per cent of total consumption. This could be taken as an index of development of rural areas.

10. The per capita consumption of electricity which is a measure of development of economy and social status has been increasing at a phenomenal rate as could be seen from the following table :—

TABLE XXIX.

<i>Serial number.</i>	<i>Period.</i>	<i>Per capita consumption in units.</i>
(1)	(2)	(3)
1	1st April 1951	12
2	1st April 1956	21
3	1st April 1961	60
4	1st April 1966	92
5	1st April 1972	133

It may be pointed out in this context that the all India per capita consumption now is about 90 units.

11. The enviable position of Tamil Nadu in rural electrification has been made possible by devoting a larger portion of resources on a planned policy of reaching out into villages and hamlets.

XV. AGRICULTURAL CREDIT AND ITS ORGANISATION.

Every business is largely dependent on credit and agriculture is no exception. Credit plays a dominant role in agricultural pursuits because of uncertainties over season and unproductive expenditure. The agriculturists seek long term credit for effecting permanent improvements like digging of wells, drainage work, land reclamation, purchase of expensive agricultural machinery, etc. They resort to short-term credit to meet their immediate requirements like purchase of seed, fertilisers, etc.

2. The demand for agricultural credit is met by both institutional sources and non-institutional sources. The Primary Agricultural Credit Societies, the Land Development Banks, Government and the Commercial Banks are providing the institutional credit to the agriculturists at cheaper rates of interest. The institutional credit which was roughly 7 per cent of total credit in the year 1951-52 is steadily increasing much to the advantage of the innocent, illiterate and impoverished agriculturists. The professional money-lenders who provide the non-institutional credit continue to exploit the needy agriculturists with exorbitant interest rates. With the nationalisation of major commercial banks and setting up of the Agricultural Refinance Corporation, there is scope for easy agricultural credit reaching larger rural areas.

3. The extent of rural credit provided by various institutions is illustrated in the following table :—

TABLE XXX.

Serial number and Institutions.	Rs. in crores.	
	1961-62.	1970-71.
(1)	(2)	(3)
1 Government	2.78	10.12
2 Land Development Banks	N.A.	22.66
3 Primary Agricultural Credit Societies	16.81	44.43
4 Commercial Banks	1.23	64.53
Total ..	20.82	141.74

The expansion of co-operative sector and the extension of banking facilities to rural areas have helped in easing the situation and dispensing cheap credit. It is needless to say that these facilities have helped in augmenting agricultural production.

4. Apart from the above sources for institutional credit, certain specialised agencies have been formed for providing institutional assistance to agriculture in this State. The objective and functions of these agencies are briefly described.

5. The Agricultural Refinance Corporation, formed in the year 1965, renders assistance in the reclamation and preparations of land, development of mechanised farming, development of animal husbandry, cultivation of plantation crops and development of pisciculture. The financial assistance is channelised through co-operative institutions and the total amount of loans issued upto 1972 exceeds Rs. 16 crores.

6. The International Development Association Project has been conceived with the objective of land development in Chingleput, North Arcot, Dharmapuri, Salem, South Arcot, Thanjavur and Tiruchirappalli districts with the assistance from the World Bank. The Project envisages a total project cost of Rs. 42.12 crores towards development of filterpoints and wells, land reclamation, land drainage, tractors and accessories. The loans issued during 1971-72 and 1972-73 amount to Rs. 2.44 crores.

7. The Tamil Nadu Agro-Industries Corporation established in 1966, provides assistance to industries that help in modernisation of agriculture and animal husbandry and food processing industries.

8. The Small Farmers Development Agency and the Marginal and Sub-Marginal Farmers and Agricultural Labourers Development Agency sponsored in 1970-71 aim at helping these farmers to maximise production on their small holdings and to take up subsidiary occupations like poultry which will augment their meagre income. The former agency is expected to benefit 50,000 small farmers in three selected districts and the latter 20,000 marginal and sub-marginal farmers and agricultural labourers in two selected districts. The loans issued by these agencies in the project areas upto 1972 amount to Rs. 1.88 crores and Rs. 0.37 crores respectively.

XVI. MARKETING FACILITIES.

Agricultural marketing is the final phase of agricultural production. This final phase should be on sound and scientific basis if the producers are to realise the fruits of their hard labour against uncertainties of season. Between the producer and the consumer, the produce changes hands many times. There are many intermediaries like the village merchants, itinerant dealers, wholesalers, commission agents, brokers and retailers in the process of marketing the produce. Various malpractices such as wrong weighments, unauthorised deduction and allowances, adulteration, lack of open dealings, false report of ruling prices and lack of any machinery to easily settle disputes between buyers and sellers are all prevalent. The innocent producer, hailing from the villages, falls an easy prey under such conditions of marketing. To afford him proper facilities to market his produce on fair terms, the Regulated Markets have been established for agricultural produce like paddy, groundnuts, cotton, tobacco, gingelly, chillies, coconuts, cashew-nuts, turmeric, tapioca and its products, tamarind, pulses like greengram and blackgram, sugarcane and jaggery under Tamil Nadu Agricultural Produce Markets Act of 1959. The Act is intended to provide for better regulation of buying and selling of agricultural produce and for establishment and proper administration of the Regulated Markets for agricultural produce. In the area notified by the Government, usually the entire revenue district, a Market Committee is formed consisting of representatives of growers and traders of the notified area and crops, to enforce the various provisions in the Act. All the functionaries like the commission agents, brokers, traders and weighmen are licensed. The Committee enforces regulations regarding correct weighments, maximum commission, brokerage, weighing charges to be collected, deductions that can be allowed, etc. The Regulated Markets are established by the Committee in assembling centres as directed by the Government, where facilities for direct sale of the produce brought by the producers to the consumers are made available.

2. The salient features of the Regulated Market are :

- (a) It provides a meeting place for the producers and consumers to come together.
- (b) The market charges are specified and are within reasonable limits.
- (c) Weighments done by licensed weighmen are correct and are tested periodically.
- (d) Amenities to the producer by way of a waiting shed, cart park, etc., are all provided in the market yard.
- (e) Market intelligence regarding arrivals, sales, prices, etc., at the important marketing centres are furnished to the buyers and sellers so that they may know the trend of the market.
- (f) Prompt payment by the buyers to the sellers is insisted upon.
- (g) It serves as a pooling place for affording bulk purchases of the quality produce required.
- (h) Suitable quality standards and standard contract forms for buying and selling are adopted.
- (i) Transactions take place in public and hence the dealings are fair.
- (j) Prices paid are the highest due to competition between the buyers.

3. The market committees have been formed in almost all the districts of Tamil Nadu. A statement with particulars on the Market Committees, number of Regulated Markets and commodities notified (as in 1970-71) is given in Annexure 10. There is a proposal to open more Regulated Markets so as to have 150 markets covering the entire State by the end of Fourth Five-Year Plan. The arrival of the notified crops to the market is gaining momentum as the producers have realised the usefulness of the Regulated Markets. The detailed information on the quantities of agricultural produce marketed through the Regulated Markets is furnished in the statement at Annexure 11.

4. That a homogenous produce fetches a fair price is well known. The producers are getting convinced of this. They have their produce dried, winnowed and cleaned and present them in an appealing manner in the market. Two schemes namely Commercial Grading Scheme and Kapas Grading Scheme have been formulated whereby samples are drawn from the lots and analysed by physical and scientific standards. Based on the analyses, a specific grade is allotted to each lot. The advantage in undertaking this process is that the buyer gets the produce worth the money he pays for and the seller is able to get a maximum price for his produce. This commercial grading at producers' level is done by the marketing staff. Groundnut kernels, pods, fruits (mangoes, sathugudi), potatoes, cotton (Kapas), gingelly seeds, paddy and cane jaggery are graded. Under Commercial Grading Scheme, the commercial grading is being done in 14 centres by trained graders posted specially for this purpose. There are five centres under Kapas Grading Scheme.

5. The following quantities of agricultural produce were graded by Commercial specifications during the year 1970-71 :-

TABLE XXXI.

Commodity.	Quantity graded in Quintal.
(1)	(2)
1 Groundnut Kernel	3,15,971
2 Groundnut Pods	11,138
3 Gingelly	28,162
4 Cane Jaggery	77,168
5 Potato	1,64,729
6 Fruits (in numbers)	27,08,550
7 Kapas	1,09,152

6. The Market Committees feel that if the sale of agricultural produce through Regulated Markets in the notified area is made compulsory, the Regulated Markets could function more effectively. If this is done, the trading practices could be completely regulated in the notified area and the ryots made to reap the benefits of the regulations.

XVII. RURAL COMMUNICATION.

The successive Five-Year Plans have been laying greater emphasis on development of communication systems especially in the rural side. The broad objective has been to link up all villages through a net work of roads which are usable in all weather. Of the total road mileage of 74,164 kilometres, as on March 1971, roads maintained by the Panchayat Unions and the Panchayats account for 40,032 kilometres, which reflect the importance of

road communication in rural areas. There has been a steady increase in the length of roads maintained by the Panchayat Unions and the Panchayats over years, as could be seen from the following table :—

TABLE XXXII.

<i>Serial number.</i>	<i>As on 31st March.</i>					<i>Roads maintained by Panchayat Unions and Panchayats (in Km.).</i>	<i>Total road mileage (in Km.).</i>	<i>Percentage.</i>
(1)	(2)					(3)	(4)	(5)
1	1961	..	..	..	..	19,748	44,019	45
2	1966	..	..	..	..	35,160	65,567	54
3	1971	..	..	..	..	40,032	74,164	54

2. More than 50 per cent of the roads maintained by the Panchayat Unions and the Panchayats are unsurfaced. The details regarding the length of roads by surface are furnished in the table below :—

TABLE XXXIII.

<i>Serial number and Classification.</i>	<i>Length in Km. (As in 1970-71).</i>	<i>Percentage to total.</i>
(1)	(2)	(3)
1 Unsurfaced	21,719	54.25
2 Water Bound Macadam	17,769	44.39
3 Bituminous	543	1.36
4 Cement Concrete	1	..
Total	40,032	100.00

CHAPTER IV LAND LEGISLATION, TENURE AND RECORDS.

I. LAND TENURE.

Evolution of various systems.—The system of land tenure, which prevailed in this part of the country from early times, was one in which the owner-cultivators or "ryots" enjoyed substantial proprietary rights over the land so long as they paid the share of the produce due to the State or its delegates. The tenures were largely the results of changes and growths, wars and incursions, local conquests or usurpations and rise and fall of ruling families. Two rights were recognised; the right of the Sovereign authority to collect taxes or a share of the produce (called the "melwaram") and the right of the owner-cultivator to proprietary right (called the "kudiwaram") subject to such payment. While in some tracts Government directly retained the first right creating the "ryotwari" pattern, in some tracts, this was given to intermediaries called Zamindars, Inamdars, etc.

2. Recently the rights of another class—the cultivating tenants or share-croppers have come to be prominently recognised. The cultivating tenants are the actual tillers of the soil and they are the operational holders of the land. The land legislation measures initiated by the State include both protection of the ryots from the exploitation by the intermediaries and later protection of the tenants from arbitrary eviction and culminating ultimately in their pre-emptive right to purchase the land.

(1) *Zamindari system.*—The State has always claimed a share of the produce of every cultivated land from ancient times and, until very recently, the State was deriving its principal revenue from the land. Before the advent of the Mohamedan conquest, there were different small kingdoms where the Sovereign was able to collect the States' share of the produce direct from the cultivator. However, after the Mohamedan conquest and consolidation of the various principalities, the Sovereign was not able to exercise direct control over the collection of revenue from the cultivators. The collection of revenue called melwaram or share of the Sovereign rights was entrusted to the local chieftains who were allowed to retain a certain percentage of the amount due and pay the balance to the State. These intermediaries were called as Zamindars. The existence of the Zamindars was inevitable for the mutual benefit of the sovereign as well as the Zamindars since the former was not able to exercise direct control over the cultivators and the latter were not able to assert their independence. The Zamindars were allowed to exercise limited powers to enforce payment of land revenue and keep peace in the area. The cultivating ryots were allowed to enjoy the kudiwaram over the lands subject to the payment of land revenue (i.e., melwaram) free from interference. They had the powers to sell and purchase the lands at their will and pleasure.

2. After the advent of the British Administration, the British rulers considered it expedient to regulate their relationship with the Zamindars as a permanent measure and determine their rights and obligations. The permanent Regulation of 1802 was therefore enacted conferring permanent rights on the Zamindars to collect land revenue from the ryots and pay a portion to the Government in the form of Peisheush, Jodi or Kattubadi. The amount of such peisheush, Jodi, etc., due in respect of each estate was determined and the Zamindar was given a Title deed or Sanad in token of the conferment of the rights. The British assumed the powers to administer and maintain law and order. The rights of the ryots who held the lands under the Zamindar were also recognised by the enactment of successive regulations. In spite of such regulations, the ryots were at the mercy of the Zamindars.

3. With the evolution of stable administration, the Government considered that the rights of the cultivating ryots should be protected and they decided to confer occupancy rights to the ryots. This led to the enactment of the Estates Land Act, 1908 which prohibited the Zamindars from levying land revenue at their whims and fancies and it laid down that every ryot should be given patta by the Zamindar for the permanent enjoyment of the lands. Thus the Zamindari system came to be evolved as a system of Land Revenue administration.

(2) *Ryotwari system*.—As a result of war with Tippu Sultan, the British assumed Bara Mahal comprising Salent district under their direct control in 1770. The British Government came in direct contact with the cultivating ryots and they decided to effect a Settlement determining the rights and obligations of the cultivating ryots and dispensed with the intermediaries called Zamindars. This system is called the Ryotwari system. Under this system, the lands were surveyed and measured in detail and the exact area under each ryot was determined scientifically. The land revenue payable was determined with reference to the nature of the soil and the value of the land and the ryot was given a patta which gave the details of land held by the Pattadar and the annual land revenue payable to Government in instalments. The basic principles of ryotwari settlement are :

(1) The assessment shall be on the land and shall not depend upon the description of the produce or upon the person holding the land.

(2) The soil is to be classified under different series and classes with reference to their intrinsic fertility and the rates of assessment are to be determined with reference to the productive capacity of the soil.

(3) The assessment was fixed in such a way as not exceeding half the net produce after deduction of expenses towards cultivation and vicissitudes of season.

The ryotwari system was extended to almost all the areas that came under the direct control of the British Government.

(3) *Inam tenure*.—It was customary with the ancient Hindu kings to make benevolent grants of lands to individuals or institutions free of land assessment or on favourable rates of assessment in recognition of services rendered or for the purpose of rendering service either personal, religious or charitable in nature. These grants were called inams. The Muslim Rulers and the British Rulers who came last recognised such inams and they also granted land on inam tenure to the persons of their choice. During the decline of the Mohamedan rule, many petty kings and chieftains granted lands on inam tenure indiscriminately and many persons assumed inam rights under bogus title deeds by virtue of their power and influence with the local authorities. In Kanyakumari district which formerly belonged to Travancore State, there were certain inam grants like the Kanyakumari Sri Pandaravaga and Sree Padam lands. The former was held by Sree Padmanabhaswami temple, Trivandrum and the latter by the women folk of the Travancore palace.

2. The British Government felt that they were deprived of the legitimate land revenue on account of such mushroom growth of inams. They therefore wanted to determine and recognise the genuine cases and weed out the bogus ones. They appointed an Inam Commission in the year 1858 to look into each case of inam grant, conduct enquiries and confirm the inams by issue of title deeds. In cases where the title to the inam was dubious, the Inam Commission imposed the payment of Jodi, the rate varying with reference to the period of enjoyment of the land as an inam. All the inams were thus recognised by issue of title deeds by the Inam Commission before 1865. The remnants of inam settlement after the Inam Commission were attended to by the Board of Revenue. Apart from the grants recognised by British Government, the Zamindars gave lands as inams to their dependants and institutions from their estates conferred on them during permanent settlement. These inams are called Post-Settlement grants.

3. There were different categories of inam grants, viz. (1) Minor Inams which comprised of the specified extent of land either wet or dry, (2) Part Village Inam grants which comprised of portions of villages when the lands were either enjoyed with both melwaram and kudivaram rights or only with melwaram rights, (3) Whole Inam Village grants which comprised of the named village as a whole with dry, wet and poramboke lands where only the melwaram was collected and enjoyed by the Inamdar.

4. Apart from the above 3 systems of land tenure, viz., Zamindari system, Ryotwari system and Inam system, there are grants of villages as leasehold and freehold recognised by the British Government. The leasehold villages were granted to individuals subject to payment of annual lease to Government and freeholds were granted on collection of lumpsum and the holders are entitled to enjoy the lands free of assessment. But these cases are very few and the area is meagre.

5. With the completion of permanent settlement in respect of the Zamindari Estates in 1802, the Inam Settlement in respect of the inam grants in 1865 and the Ryotwari Settlement in the areas coming under the direct control of the British Government, the demand under the Land Revenue was determined for the entire State and the systematic accounting of D.C.B. under Land Revenue was evolved.

II. LAND LEGISLATIONS.

In order to protect the ryots from the exploitation of the intermediaries, the Estates Land Act, 1908 (Act I of 1908) was passed. Under this Act, the occupancy ryot was entitled to sue for the grant of patta before the Revenue Divisional Officer and the Zamindars were forced to maintain proper accounts for the issue of patta and collection of land revenue. They were precluded from making exorbitant demand of land revenue. The grants of whole Inam Villages and Zamin estates were brought under the purview of this Act. By an amendment Act of 1936, the part village inam grants comprising both waram rights were also brought under the Estates Land Act.

2. When the concept of a Welfare State was mooted at the coming into power of the popular Government in 1937, the existence of the intermediaries was found to be out of date. The existence of intermediaries had its own inherent shortcomings. The Zamindars and the Inamdars holding melwaram rights were more interested in collecting their melwaram than in the welfare of the occupancy ryots. There was no proper encouragement to improve agriculture. The ryots were not enthusiastic to improve agricultural production since they apprehended that the increase in production would be exploited by the Zamindars. The popular Government decided to abolish the Zamindari system and bring the areas under the control of the intermediaries on par with the ryotwari system.

3. As a precursor, the Estate Land (Reduction of Rent) Act, 1947 was passed. This Act provided for the reduction of rent collectable from the ryots on par with the adjoining ryotwari areas. The Act further enabled the Government to collect the rent from the ryots on behalf of the Zamindar and the Inamdar and the rent so collected was made over to the Landholder after deducting 10 per cent towards collection charges.

4. The Estates (Abolition and Conversion into Ryotwari) Act, 1948 was passed to abolish the intermediaries and pay them the compensation for the loss of melwaram rights. All the whole Inam villages besides the Zamindari and under tenure Estates were brought under the purview of this Act. The Estates were notified and taken over on a date fixed by the Government and the rights of the Landholders were to cease and determine as against the Government from that date. The Zamindars and the Inamdars

were granted ryotwari patta only for their private lands where the conditions stipulated in the Act were satisfied, the other lands going to the ryots. The lands were surveyed and settlement operations undertaken to classify the soil and assign proper description as wet, dry, manavari and porambokes. The ryotwari assessment was determined for all the cultivable lands adopting the rates prevailing in the ryotwari areas. The title to the lands was determined by conducting Final Settlement enquiries in the villages under the provisions of the Act and ryotwari pattas were issued to the occupancy ryots.

5. In the year 1963, the Iruwaram Inam estates (part and whole villages) the minor inams and the leaseholds were abolished by the enactment of the Inam Estates Abolition Act 26/63, the Minor Inams Abolition Act 30/63 and the Leaseholds Abolition Act 27/63. These Acts came into force in the year 1965 and survey and settlement operations have been conducted and completed in the bulk of the areas. The remaining area is covered by stay orders of Courts and other impediments.

6. Under these enactments, the Inamdars and Lessees were paid compensation for the loss of inam and lease privileges. They were granted ryotwari patta for the lands they were personally cultivating. In the case of inams held by institutions they have been protected by providing payment of annual Tasdie allowance in order to maintain the institution.

7. In 1964, the Kanyakumari Sree Pandaravaga Lands (Abolition and Conversion into Ryotwari) Act 31/64 was passed to abolish the Pandaravaga rights. The rights over the lands held by Sree Padmanabhaswami Temple, Trivandrum, were acquired and annual Tasdie allowance is being paid to the temple. Ryotwari Settlement has been effected and pattas have been issued to the occupancy ryots.

8. The Sree Padam rights in Kanyakumari district have also been abolished by the enactment of the Kanyakumari Sree Padam Lands (Abolition and Conversion into Ryotwari) Act 11/73. This has come into force on 11th July 1973 and Ryotwari Settlement is proposed to be completed soon.

9. The Freeholds Abolition Bill has been proposed and it has been enacted to terminate the enjoyment of lands free of assessment, recently.

10. With this legislation, and when the Gudalur jenman tenure in the Nilgiris is abolished the entire State comes under the uniform Ryotwari System where the occupancy ryots are brought in direct contact with the Government and the levy of assessment is uniform throughout the State.

III. TENANCY LAWS.

The occupancy ryot recognised under the Ryotwari system is not necessarily the tiller of the soil. There are many absentee landowners who leave the lands on lease to the tenants who actually cultivate the lands and enjoy the produce on payment of lease rent to the owner. With the evolution of welfare measures of the State and in order to protect the interests of the tiller of the soil, certain enactments were made to protect the tenants from arbitrary eviction and to ensure their share of the produce under statutory protection.

The following Acts have been passed to confer rights on the tenants.

1. *The Thanjavur Pannayal Protection Act, 1952.*

This Act protected the pannayal tenants of Thanjavur district from eviction by land owners without valid reasons.

2. *Tamil Nadu Cultivating Tenants Protection Act, 1955.*

This Act protected the cultivating tenants in the State from unauthorised eviction by landowners.

3. *Tamil Nadu Cultivating Tenants Fixation of Fair Rent Act, 1956.*

This Act provided for the fixation of quantum of rent to be paid by the tenant to the landowner.

4. *The Tiruchirappalli Kaieruwarem and Matteruwarem Act XXXVI of 1958.*

This Act defined the conditions of employment of Kaieruwaremdars and Matteruwaremdars in Tiruchirappalli district and also protected the rights of these persons.

5. *The Tamil Nadu Public Trusts Act, 1961.*

This Act regulated the administration of temple lands vis-a-vis recognition of tenants of temple lands.

6. *Tamil Nadu Cultivating Tenants Special Provisions Act XVI of 1968.*

This Act provided for the payment of arrears of rent by the cultivating tenants in easy instalments.

7. *Tamil Nadu Agricultural Land Records of Tenancy Rights Act, 1969.*

This Act provided for the maintenance of comprehensive and up-to-date record of tenancy in the State.

8. *Tamil Nadu Occupants of Kudiyruppu (Conferment of Ownership) Act, 1971.*

This Act conferred ownership right of the dwelling site to the tenant.

9. *Tamil Nadu Cultivating Tenant Arrears of Rent Relief Act 21 of 1972.*

This Act provided relief to the cultivating tenants to get abatement of earlier arrears of rent by payment of rent due for fasli 1381 only.

10. *Tamil Nadu Cultivating Tenants Right to Purchase Ownership Right Bill 11 of 1973.*

This Bill, passed by the Legislature, awaits the assent of the President. This Act seeks to enable the cultivating tenant to pre-emptively purchase lands from the landowner on easy terms and instalments.

IV. CEILING LAWS.

The concentration of land with a few individuals has created an atmosphere of monopoly trend in the holding of lands. In order to curtail such trend, the Government have passed the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 limiting the extent of land that can be held by an individual to 30 standard acres. The ceiling has been further reduced to 15 standard acres by a further amending Act of 1970.

V. GENERAL SURVEY AND SETTLEMENT.

The ryotwari system that has been in force in Tamil Nadu was brought about by a Revenue Settlement for each tract preceded by a survey of lands in the area.

(1) *Survey*.—As a preliminary to every settlement, detailed survey of the tract was done. The first revenue survey done is called the "Paimash" survey which took place during the first quarter of the 19th century. In this survey, each holding was numbered and its name and measurements were recorded in cadjan leaves or on flimsy paper. The measurements were taken by "Khasra" method (i.e.), multiplying the mean of the lengths by the mean of the breadths. There was no attempt made for preparing maps.

2. The modern survey started in the year 1858. The cadastral survey of the ryotwari area was completed by the year 1896. Under this type of survey, each village is divided into convenient khandams and standard survey fields of not more than five acres in wet and 10 acres in dry were formed and then subdivisions were formed for each distinct enjoyment.

3. During the resurvey of Tiruchirappalli and Salem districts under this system in the year 1890, field measurement books showing the boundaries of each field were plotted to scale but there was no village mapping done to the plotting scale. But in a lithographed copy of the original maps in the scale of 1" = one mile, the field boundaries shown in the F.M.B. were inked and a photo reduction of this copy to 8" scale served as a key to the position and shape of survey fields. The system of plotted village map was first used in the northern taluks of Salem.

4. At present the method of survey under the "Diagonal and off set system" has been proved to be the best. The maintenance work under this system is easy and accuracy in measurement is ensured.

(2) *Settlement*.—During the settlement the soils are divided into certain classes with reference to their mechanical composition and each class is further subdivided into sorts or grades with reference to their chemical and physical properties and also with reference to their fertility and location. A separate grain value to each series of soil is determined after numerous examinations of the actual outturn of the staple products in each class and sort of soil. The grain value is then converted into money rate at the commutation price based generally on the average of the 20 non-famine years immediately preceding the settlement for the whole district, with some abatement for traders' profits and for the distance involved in the transport of the markets, and from the value of the gross produce thus determined, the cost of cultivation and a certain percentage on account of vicissitudes of season and unprofitable areas is deducted and one half of the remainder is taken as assessment or the Government demand on land. After this, soils of similar grain values, irrespective of their classification are bracketed together in order called Tarems, each having its own rate of assessment. These rates are further adjusted with reference to the position of the villages in which the lands are situated and the nature of source of irrigation. For this purpose villages are formed into groups, dry lands with reference to their proximity to roads and markets and wet lands with reference to the nature and quantity of the water supply.

2. The assessment thus fixed represents the commuted value of the Government share of the surface cultivation. The settlements were generally in force for a period of 30 years and at the end of 30 years a resettlement was made. This system of resettlement was abandoned in the year 1937 as a matter of State Policy and as a result the resettlements that were in force during 1937 for the different tracts are still in existence. The rates of assessment fixed in the original settlement are taken as the basis for determining the revision of rates during the resettlement with reference to increase in the prices of staple crops. In the ryotwari settlement effected

under the Abolition of tenure, the Resettlement rates have been adopted with reference to the soil classifications made by the Settlement staff during field inspection.

VI. CONSOLIDATION OF HOLDINGS.

In this State there is no consolidation of holdings.

VII. REVENUE ADMINISTRATION AND MAINTENANCE OF LAND RECORDS.

(1) *Revenue Administration*.—The Tamil Nadu State has been divided into 14 administrative units called Districts. Each District is under the control of a Collector assisted by a District Revenue Officer excepting Madras, the Nilgiris, Dharmapuri and Kanyakumari districts which are under the control of the Collector. Each district is divided into Revenue Divisions and each Revenue Division is further divided into Taluks for the purpose of administration. The Revenue Divisions are under the control of a Revenue Divisional Officer and each Taluk is under the control of a Tahsildar. After the introduction of Community Development Scheme in the State each Taluk is divided into 3 or 4 Development Blocks which are under the control of Block Development Officers. There are 375 Development Blocks called Panchayat Unions in the State except the City of Madras. There is one Panchayat Union council headed by a Chairman for each Panchayat Union. The Collector is the head of the District. He is incharge of law and order, revenue, civil supplies and developmental administration and also exercises general supervision over the other District Officers.

(2) *Maintenance of Land Records*.—(1) The maintenance of land records involves the preservation of records and carrying out post-survey changes in the records handed over by Survey and Settlement Department during the normal course of Revenue Administration. The main records that are maintained are the village map and the field atlas handed over by the Survey Department and the Printed Re-settlement Register supplied by Settlement Department.

(2) The object of maintenance of records is to provide an up-to-date and authoritative record for day-to-day Revenue administration. The Tahsildar of the taluk is provided with one set of field atlas and village map and Re-settlement Register. Similar records are also provided at village level for maintenance by the Karnam.

(3) In the maintenance of the Survey Land Records, the Tahsildar is assisted by a maintenance Field Surveyor at Firka level, Taluk Deputy Surveyors at Taluk level, besides Panchayat and Town Surveyors. There is one Divisional Head Surveyor for each Revenue Division, an Inspector of Survey and Land Records for each Development District. Technical supervision of the work of all these Survey Personnel is done by District Unit Officer called Assistant Director of Survey and Land Records.

(4) In the maintenance of Re-settlement Register the Tahsildar is assisted by Village Karnams and Firka Revenue Inspector to bring the Revenue registry, etc., up-to-date.

(5) In the maintenance of Revenue records, the emphasis is now mainly on the Transfer of Registry and creation of subdivisions due to such transfers. The levy of Land Revenue on all dry lands and dry component at assessment on wet lands below 5 acres in extent has been remitted by the Government to give relief to small farmers, and since land revenue is now thought of more as an exercise of sovereignty and as a service charge than as an important source of finance. (The State has imposed Agricultural Income-tax on holdings of larger extents as a tax on actual income from agricultural land.) The up-to-date maintenance of Revenue records is essential for the statistical purposes and for bringing the Registry up-to-date.

VIII. DESCRIPTION OF THE VILLAGE ACCOUNTS SYSTEM.

As the primary agency for the collection of statistics for purposes of Agricultural Census is the Karnam, a study of the village accounts maintained by him is also important. The Karnams have many accounts as specified in the village accounts manual. The Adangal or Statement No. 2 of the village account is the basic register containing the field-war particulars of area sown, outturn of crops, classification of land, etc., followed by the various enclosures A to F to the Account No. 2.

2. The main accounts maintained by the Karnams can be classified into four major divisions—

- (a) Crops-Cultivation Accounts.
- (b) Irrigation Accounts.
- (c) Holdingwise Accounts.
- (d) Mutation Accounts.

The foremost record for a village is the permanent "A" register prepared during settlement. This is a permanent register of fields and of changes therein carried out subsequently.

3. The next important basic account is the "Adangal". In this, the Karnam has to record particulars of survey and subdivision numbers under the various classified headings such as Wet, Dry, Poramboke, etc. He has also to record the name of the owner, name of the cultivating tenant, lease amount, the total extent of the field, the extent actually cultivated, the name of the crop and also the outturn of the crops in terms of rupee value (since revised into percentage). In column 17 (a) of the register the Karnam has to note against the Survey No. or Subdivision No. whether partly or wholly uncultivated, the category or categories to which the uncultivated part belongs and the extent under each category. An abstract of these particulars of area is called "Enclosure F to Statement No. 2".

4. Similarly the Karnams are required to maintain and submit the following other registers and abstracts also :—

- (a) Annual Statement of occupation and cultivation (Statement No. 2) (monthwise).
- (b) Monthly Statement showing the cultivations in Government and minor inam lands in the village (Statement No. 1).
- (c) Statement of Government and Private Plantations and Topes (Statement No. 2C).
- (d) Statement showing particulars of irrigation in the village (Statement No. 2D).

5. Another important account maintained by the Karnams is the Abstract of Holdingwise details of extents in the village, popularly known as the "CHITTA" (No. 10). In this, the entire extent owned by the ryots, (excluding Government lands) is shown individualwise and any changes in the ownership of the holdings, by means of, say, transfer of title, succession, partition, gift, etc., are brought into account and this chitta is required to be maintained up-to-date. In order to avoid any possibilities of omission for bringing the changes in ownership in the accounts, the Registration Department through which alone the change of title is executed, is sending every month an abstract of the transactions held during the month, to the taluk office, where the transfer of title, otherwise called "Patta Transfer" is given effect to in the relevant accounts. Besides, the transfer is also booked in the Village Accounts, if necessary, after subdividing the whole fields into parts according to the enjoyment position, on the applications made by the individuals also. Thus every possible step has been taken to ensure

a perfect interlinking system of accounts on the possession and utilisation of land, irrigation, plantations or topes, and on the output of crops, not to speak of the yield rate and season report, on agricultural production. Only on the basis of these primary accounts agricultural statistics are gathered, compiled and presented to Government. For purposes of co-ordination and proper understanding in correct compilation and abstraction of data at village and taluk levels, "Taluk Teams" consisting of the taluk level Revenue, Statistical and Agricultural Department Officials have been constituted and the team meets every 28th of the month, to discuss in detail the monthly cultivation accounts (Register No. 28) and preparation of forecast returns (Register No. 20) for selected important crops.

IX. AGRICULTURAL STATISTICS.

(a) Reporting Systems.

1. *General*.—Agricultural Statistics deal mainly with the land and its classifications, area of crops raised and their varieties, area irrigated by different sources of irrigation, extent of area irrigated under different crops, productivity rates and total production. By extended connotation, agricultural wages, cost of production of crops, prices of agricultural commodities, livestock numbers and livestock products may also be classified as agricultural statistics.

2. *Primary agency*.—Agricultural statistics flow as a by-product of Land Revenue administration. The primary agency for the collection of agricultural statistics is the Karnam or the Village Accountant in all the districts of the State except Kanyakumari district. In Kanyakumari district, agricultural statistics are collected on a sampling basis, through the Statistical staff. The system of complete enumeration has just come into vogue in that district. Arrangements are to be made in due course to obtain agricultural statistics from these reporting agencies.

3. *Basic Accounts*.—The main sources for agricultural statistics are the Village Accounts maintained by the Karnams according to the instructions laid down in the Manual of Village Accounts. The Account No. 2, popularly known locally as "Adangal" (a term signifying container of all information) is the basic account containing the field-war particulars of area sown, outturn of crops, classification of land, besides other details such as soil classification, assessment, name of the owner, name of the tenant, etc.

4. *Machinery available for collection, compilation and consolidation of data at various levels*.—A five tier system exists for the collection, collation, consolidation, processing and analysis of data pertaining to Agricultural Statistics—

(i) At the village level, there is the primary reporting agency, viz., the Karnam who does the area enumeration on a plot to plot basis which, after consolidation at successive levels, provides material for the compilation of the Annual Season and Crop Report, Crop Forecast Reports and for collection of other allied agricultural statistics.

(ii) At the firka level, there is the Revenue Inspector whose responsibility is to get the various returns for all villages in his jurisdiction, consolidate and submit the consolidated statistics relating to his firka to his immediate superior officer, viz., the Tahsildar or the Deputy Tahsildar in independent charge.

(iii) At the Taluk Office, the data received from the Revenue Inspectors in respect of all the firkas in the taluk are consolidated and submitted to the Collector/District Revenue Officer. The Taluk Statistical Inspectors assist the Tahsildar or the Deputy Tahsildar in the consolidation of data, rectification of defects, etc.

(iv) At the District level, consolidated data are worked out in Collector's District Revenue Officer's Office and the figures for the district as a whole are sent to the Department of Statistics for further processing of data and for compiling State figures. The Statistical Officers of the districts render technical guidance and assistance in the consolidation and co-ordination of agricultural statistics at the Collector's District Revenue Officer's Office.

(v) At the State level, the scrutiny of data, collation, consolidation, interpretation, analysis and bringing out reports are attended to by the Department of Statistics.

(b) Improvements in Agricultural Statistics.

1. *Improvements effected in the post-plan period upto the census year 1970-71.*—In the pre-Plan period, checks on the correctness and completeness of field data were done exclusively by higher officers of the Revenue Department. In the second Plan period, District Statistical Units have been set up manned by Statistical Officers. Subsequently, the Taluk Statistical Inspectors have also come into position. The Statistical Officers and the Taluk Statistical Inspectors render technical assistance to officers of the Revenue Department in the correct compilation and consolidation of Agricultural Statistics. They also carry out verification of area enumeration in the bourse of their ordinary tours and thus supplement the normal supervision done by the zamoinsihing officers of the Revenue Department.

A Taluk Team consisting of the Tahsildar (or the Deputy Tahsildar in independent charge), the Deputy Agricultural Officer and the Taluk Statistical Inspector has been constituted in each taluk as per Government orders. These Taluk Teams are to meet on the 28th of every month and to finalise Agricultural Statistics after due scrutiny and discussion.

These organisational arrangements have resulted in appreciable improvements in the timeliness, completeness and correctness of agricultural statistics.

2. *Improvements in scope and coverage of data.*—During the Plan era, considerable improvements have been effected in enlarging the scope of coverage of agricultural statistics. The following few examples may be cited in this context.

The land utilisation statistics were being collected prior to 1950 under five-fold classification. These are now being collected under nine classifications of land according to uniform concepts and definitions laid down by the Government of India.

Prior to 1950, particulars regarding the number of irrigation sources like canals, tanks, wells and number of wells according to use (number used for irrigation purpose, number used for domestic purpose, number not in use, etc.) were completely absent. These statistics are now being collected and presented in the Season and Crop Report since 1950-51.

Break-up details for Kharif and Rabi in respect of cholam and small millets, split up figures for planted and ratoon in respect of sugarcane and separate details of area under green manure crops and lemon grass are being collected and presented in the Season and Crop Report.

3. *Switch over to scientific method of estimation of production.*—In the pre-Plan period, data on yield rates and total production of all crops were computed by what is known as the Traditional Method, viz., based on anna-war estimates only. Though the scheme of crop cutting experiments was initiated on paddy crop as far back as 1942-43, the utilisation of results for framing estimates of production was made since 1955-56 only. Now, the results of crop estimation surveys are being utilised for computing yield

rates and total production in respect of principal crops like paddy, cholani, cumbu, ragi, groundnut, sugarcane, cotton, coconut and arecanuts, accounting for about 76 per cent in the gross cropped area under all crops in this State.

4. *Coverage of more crops under forecasting system.*—Crop forecast reports were being issued in respect of 22 crops prior to the Plan period. During the Plan period, crop forecast reports have been initiated additionally to three more crops, viz., chillies, potatoes and onions. In addition to this ad hoc estimates are regularly being issued now in respect of (1) Cashewnuts, (2) Tapioca, (3) Wheat, (4) Barley, (5) Minor cereals, (6) Minor pulses, (7) Sweet potatoes, (8) Bananas, (9) Sunhemp, (10) Rape and mustard, (11) Linseed, (12) Cardamom, (13) Turmeric and (14) Coriander. Regular crop forecast reports are intended to be issued on these crops in course of time.

5. *Construction of Index No. of Agricultural Economy.*—To provide comparable data on agricultural economy allowing for the changes in the method of estimation and improvements in coverage of data, index nos. of area, cropping intensity, yield, productivity, etc., are being constructed and published.

6. *Qualitative improvement in the precision of crop forecast reports.*—In framing estimates of area and yield for inclusion in the crop forecast reports, sophisticated statistical methods are being employed now like the application of the principles of analysis of Time Series data wherever the forecast reports from Tahsildars are not received in time and the reports received are not adequate to make consistent and efficient estimates.

Continual attempts are thus being made to place the agricultural statistics on a sound scientific basis.

CHAPTER V.

AGRICULTURAL CENSUS 1971.

I. CONCEPTS AND METHODOLOGY.

(i) *Concepts.*

The Tamil Nadu Agricultural Census 1970-71 (Fasli 1380) was part of a World Census of Agriculture sponsored by the Food and Agriculture Organisation of the United Nations. The Food and Agriculture Organisation contemplated a series of National Agricultural Censuses taken all over the world in and around the same year within the framework of uniform concepts and definitions and a common programme of item coverage and tabulation. Tamil Nadu participated in this biggest venture in agricultural statistics and conducted the census within the framework as envisaged by the Food and Agriculture Organisation. A passing reference has already been made in Chapter I of this Report about the concepts and methodology followed in the census. These are discussed in detail in this Chapter.

1. *Operational Holding.*—The need for information on the detailed structure and characteristics of agricultural holdings became imperative for effective formulation of agricultural policies. The present Agricultural Census has therefore set forth with the broad objective of collection of data relating to each holding which is the basic unit of decision making. An operational holding, for the purpose of Agricultural Census, has been defined as "all land which is used wholly or partly for agricultural production and operated directly or managed as one technical unit by one person alone or with others without regard to title, legal form, size or location". A technical unit has been defined as "that unit which is under the same management and has the same means of production such as labour force, machinery and animals".

2. *Agricultural Production.*—Agricultural production for the purposes of the census, means growing of field crops, fruits, grapes, nuts, seeds, tree nurseries (except those of forest trees), bulbs, vegetables, flowers, coffee, tea, cocoa, rubber, jute, oilseeds, fodder, grass, etc.

3. *Holding Location.*—The holding may consist of one or more parcels of land provided they are located within the same taluk and form part of the same technical unit. This implies that the pieces of land of the holding might all be located in a single compact block or scattered as fragments within the taluk. A restriction upto this area (i.e., taluk) has been made on administrative grounds.

4. *Operational Holder.*—The operational holder is the person vested with the responsibility for the management of the holding. It is the extent of responsibility of decision making in management of agricultural operations, that determines the categorisation as an operational holder. The farmers who actually participate in tilling the soil, otherwise known as operational holders, may according to tenancy status, be grouped into two major groups, viz., "Cultivating Owners" and "Share Croppers" or tenants. There is also a category of tillers who own a portion of land under cultivation and accept additional area of land for cultivation from others on a share cropping basis; they are called "Owner-cum-tenants".

5. *Part Holding.*—The operational holding might be in one village or in more than one village. The operational holding might spread over to Frika, Taluk and so on. For the purposes of Agricultural Census, the Taluk has been fixed as the ultimate unit for locating an operational holding. If an operational holding extends beyond a taluk that part of the area falling outside is treated as a separate operational holding.

6. *Individual and Joint Holdings.*—For the purposes of Agricultural Census, an operational holding is termed as an "Individual Holding" if it is managed by one or more persons being members of the same household. When two or more persons share jointly (as partners) the economic and technical responsibility for the operation of an agricultural holding, each is to be considered as the holder if they belong to different households and the holding is said to be a "Joint Holding".

(ii) *Methodology.*

The Government of India decided to carry out Agricultural Census on a complete enumeration basis for the first time in the country in the context of the new strategy for agricultural development launched in 1966-67 which necessitated collection of information for micro-level planning. In Tamil Nadu, the comprehensive system for collection of agricultural statistics through village accounts maintained by the revenue agencies has formed the base for Agricultural Census. The land records contain detailed particulars on individual fields (Survey Numbers and Subdivision Numbers) which are normally aggregated at various geographical levels like Village, Pirk, Taluk, District, etc. As the operational holding is the basic unit of decision making, the Agricultural Census aimed at collection of agricultural statistics at the holding level.

1. *Census.*—In Tamil Nadu, the basic land records are available in eleven districts (viz.), Chingleput, South Arcot, North Arcot, Salem, Dharmapuri, Coimbatore, Tiruchirappalli, Thanjavur, Madurai, Ramanathapuram and Tirunelveli. In all these districts, the Agricultural Census was carried out on complete enumeration basis.

The census envisaged collection of data in respect of each operational holding by retabulating the data already available in village land records. The retabulation approach involved recompilation of data survey numberwise/subdivision numberwise into operational holdingwise figures. The following items were covered: (a) size of operational holding according to the status of cultivator (owner, tenant, etc.), (b) land utilisation, (c) area under crops, (d) irrigation cropwise (gross area irrigated) and (e) irrigation sourcewise (net area irrigated).

2. *Sample Survey.*—The basic records available in the two districts (viz.), the Nilgiris and Kanyakumari districts could not lend themselves for retabulation of census data. For this reason, sample surveys were carried out to collect the required data.

A multi-stage stratified simple random sampling procedure was adopted for the conduct of the survey. The various regions in the district were suitably stratified into as many strata as required in order to ensure the homogenous character of each strata. Kanyakumari district was divided into two strata, each consisting of two taluks. The urban and rural areas of the Nilgiris district were grouped into the following five distinct strata:—

Stratum I—Predominantly Agricultural (Rural).

Stratum II—Predominantly Plantation (Rural).

Stratum III—Predominantly Forest (Rural).

Stratum IV—Predominantly Agricultural (Urban).

Stratum V—Predominantly Plantation (Urban).

In both the districts, ten per cent of villages/karas/urban blocks were selected from each stratum by simple random sampling method for the purpose of the survey. In each of the sample village/kara/urban block selected, ten per cent of the operational holdings were selected for the collection of first stage information (general enquiry). A twenty per cent sub-sample was selected from the main sample for collection of second stage information

(detailed enquiry). The sample size of operational holdings in respect of karas selected from Kaikulam and Villavancode taluks of Kanyakumari was twenty-five per cent while the size of the sub-sample was same (twenty per cent) as applicable to other areas, because of the high degree of heterogeneity in these taluks.

Information on the following items was collected from ten per cent and twenty-five per cent of operational holdings selected in each of the sample village[kara respectively during the general enquiry stage of the survey :—

- (a) Number and size of operational holdings.
- (b) Tenure and tenancy.
- (c) Land utilisation.
- (d) Sourcewise area irrigated.
- (e) Area under various crops and number of trees, cultivated under irrigated and unirrigated conditions.

During the detailed enquiry stage, a sub-sample of twenty per cent of the main sample of operational holdings was selected in each sample village[kara and information on the following items was collected in respect of each selected operational holding :—

- (a) Use of fertilisers, pesticides, etc., for the crops covered under both high yielding variety and local variety.
- (b) Inventory of livestock.
- (c) Inventory of agricultural machinery and implements.
- (d) Employment of farm population.
- (e) Association of agricultural holdings with other industries.

3. *Madras City*.—Madras City, the remaining district, is the capital for State administration. This is purely an urban area and because of its urban character, this district is beyond the scope of the present Agricultural Census.

II. ORGANISATION AND ADMINISTRATIVE ARRANGEMENTS.

At the State headquarters, the Secretary to Government, Revenue Department, is the Ex-Officio State Agricultural Census Commissioner. The Director of Survey and Settlement is designated as the Director of Agricultural Census and conferred Ex-Officio status of Deputy Secretary to Government, Revenue Department which has helped in taking quick decisions on policy and administrative matters. The Director of Agricultural Census is assisted by one Assistant Director of Statistics drawn from the State Statistical Bureau and other supporting non-Gazetted staff. Earlier when there was intensive field work, there was also one Deputy Director of Agricultural Census in the rank of District Revenue Officer.

2. The census enumeration work was a gigantic operation involving the entire Revenue machinery in the districts. At the village level, the Karnam was the field enumerator who was in charge of one or two villages. He was the primary reporting agency for the census work. The enumeration work by the Karnams was supervised by the Revenue Inspector at Firkha level. The Tahsildar was responsible for Agricultural Census work at taluk level. At the district level, the Collector exercised overall control on census operations assisted by District Revenue Officers.

3. The Statistical units are functioning in all the districts of the State. The District Statistical Officers and Taluk Statistical Inspectors were also actively associated with the supervisory work relating to Agricultural Census.

4. The State Government have constituted a State Level Committee consisting of select Heads of Departments and Senior Officers of the concerned Departments to assist the Director of Agricultural Census in the preparation of the State's final report on Agricultural Census. The Secretary to Government, Revenue Department, who is also the State Agricultural Census Commissioner, is the Chairman of this Committee. The Assistant Director of Statistics (Agricultural Census) is the Secretary of the Committee.

III. PILOT CENSUS.

The conduct of a pilot study is a must before carrying out a regular study; it is more so in a large scale operation like the present Agricultural Census. The pilot studies help to locate problems and to find the solutions. These are also helpful in pre-testing the various schedules and in finalising the programme of work. The Government of India aptly put forth their suggestion to State Governments that the regular Agricultural Census on Statewide basis should be preceded by pilot census in typical areas.

2. Accordingly, three firkas located in the following three districts representing three different regions in Tamil Nadu were selected and pilot studies were carried out.

<i>District.</i>	<i>Taluk.</i>	<i>Firka.</i>
1. North Arcot	Chengam	Thandrampattu.
2. Coimbatore	Udumalpet	Madathukulam.
3. Ramanathapuram	Aruppukottai. ..	Tiruchuli.

Thandrampattu firka was selected for the study as it was predominantly a tank fed area. Madathukulam firka was chosen as it represented a predominantly well irrigated area. Tiruchuli firka representing Inam taken over area was selected for the study because of the special problems likely to be encountered there.

3. As the first step in the pilot study, a training programme for the Karnams in the firkas was arranged. The Assistant Director of Statistics in charge of Agricultural Census in the Department of Statistics imparted training to the Karnams and Revenue staff. Copies of detailed instructions for the guidance of the Karnams drafted for the purpose in Tamil and printed copies of proforma for furnishing the retabulated data were supplied to the Karnams during the training class.

4. Certain clarifications were sought by the Karnams during the training programme. They related mainly to the following :—

- (i) reckoning of area occupied by wells in the cultivated fields; and
- (ii) recording of net area irrigated exclusively under two different seasons from two independent sources during a fasli year in the same land.

As regards item (i), it was clarified that the area occupied by wells, buildings, etc., in the cultivated fields should be shown under land not available for cultivation. In regard to item (ii), it was pointed out that the area should be recorded only under the major source. If wells had been used as a supplementary means of irrigation in a holding registered under a tank, the area irrigated should be exhibited only under the source "tank". Since only net area irrigated is required, the area irrigated for the first time should be taken into account during the different seasons.

5. The duration of field work was about 1½ months. Particulars were collected in respect of all operational holdings in the firkas. The filled in schedule received from the firkas were subjected to a thorough scrutiny in the head office before taking them up for tabulation. The common defects noticed were—

(a) Lack of internal consistency in the figures furnished under different columns.

(b) Arithmetical inaccuracies.

(c) Incomplete information.

Other major defects noticed were—

(a) Concealment of tenancy status even though figures had been furnished under cultivated area.

(b) In some cases the total net area irrigated shown under Block III of the schedule exceeded the total given in Block I and II.

(c) In Block III against the item "net area irrigated", no figure had been furnished though the figures of area irrigated had been furnished in Block IV (area cultivated).

(d) In Block IV, against the item "Total cropped area" and "Total foodgrains" no figure had been given in some schedules. In a few cases the totals referred to had not been furnished correctly.

(e) The total cropped area (irrigated and unirrigated) in Block IV was found to be less than the net area sown in Block II.

6. Based on the nature of defects observed, the compendium of instructions and the schedule intended for the main census were suitably amplified, specifying the types and manner of checks to be exercised by the supervising officers at the firka and taluk levels. A single page proforma was designed on the lines suggested by the Government of India and on the basis of findings of the pilot study. The pilot study also gave an indication of the time required for retabulation operations.

IV. ARRANGEMENTS FOR SUPERVISION.

The entire field work on Agricultural Census was to be carried out by the Karnams in their respective villages. As many as 11,700 Karnams were engaged in this colossal work which had to be completed in record time in 16,293 villages comprising 123 taluks in 11 districts simultaneously. As the magnitude of this work was huge, a number of omissions and commissions were likely to creep in if adequate supervision had not been carried out at the stage of retabulation. In order to ensure proper and accurate retabulation, effective supervision was arranged as detailed below.

2. The work of the village Karnams relating to the retabulation of data in the rough registers was supervised by the Revenue and Statistical staff in the districts to ensure that no information on cropped area, etc., was left out of retabulation. For this purpose, the Revenue Inspectors were instructed to check the relevant details in the rough register as entered by the Karnam with those in the Adangal and to certify that the entries in the rough register were correct. Sample checks were also carried out by the administrative and technical officers to ensure fool-proof recordings. Based on the entries made in the rough register, proformae were filled up by the Karnam.

3. The work of the Karnams in filling up of schedules in all the villages was supervised by the Revenue Inspectors by checking the entries made in the schedule with reference to the village records. Apart from the Revenue Inspectors the Tahsildars, Special Tahsildars (Agricultural Census),

Taluk Statistical Inspectors, District Statistical Officers and Revenue Divisional Officers checked about 10 per cent of the schedules in each of the 10 per cent sample villages within their jurisdiction. They particularly checked some of the schedules already checked by the Revenue Inspectors. As an overall supervisory officer at the district level, the District Revenue Officers and the District Collectors supervised the census work and checked some schedules in a number of villages visited by them.

4. At the time of the field work, Officers at the State Headquarters were keeping constant watch over the progress and quality of the work. During their inspection tours, they saw that the work was carried on smoothly. The State Agricultural Census Commissioner observed some discrepancies in a few rough registers written by the Karmams during the course of his inspection tours in South Arcot, Thanjavur, Tirunelveli, Ramanathapuram, Tiruchirappalli and Madurai districts. As the Agricultural Census envisaged building up of firm figures of important items like number, size and distribution of holdings, area under crops, land utilisation, irrigation and tenure and tenancy, the State Agricultural Census Commissioner felt it essential to organise an intensive check at the stage of the preparation of rough registers and also of schedules by all the Gazetted Officers of the Revenue Department in each district. Special orders were issued to all the District Collectors to allot each Gazetted Officer a specific area comprising of a sub-taluk or taluk for intensive and thorough check. These Gazetted Officers organised and carried out elaborate checks and the defects noticed by them were rectified then and there. This involvement of a large number of Gazetted Officers in the supervision programme had not only ensured the quality of data but also the expeditious completion of field operations in time.

5. A State level co-ordination committee consisting of the State Agricultural Census Commissioner as Chairman and four other members, viz., The Secretary to Government, Agriculture Department, The Director of Agricultural Census, The Director of Statistics and The Director of Agriculture was constituted to review the progress of the census work and to help in co-ordinating various departments involved in this work. Similar co-ordination committees were formed at the district level consisting of the Personal Assistant to the Collector-in charge of Agricultural Census, District Statistical Officers and other district Officers involved in this work. At taluk level also, such committees were formed with the Tahsildars, Special Tahsildars and Taluk Statistical Inspectors.

V. PREPARATORY WORK.

1. *Updating of records.*—The village land records formed the base for Agricultural Census. The collection of data on the specified items was expected to yield reliable results only if the land records were up-to-date. In order to launch a special drive for bringing the land records up-to-date, the Fash 1350 (1970-71) was declared as World Agricultural Census year and special advance action was taken for conducting intensive *ajnaish* operations by the Revenue Inspectors and the Tahsildars, with a view to ensure monthly crop inspections by the Karmams, to bring the mutation register up-to-date and also to record correct information under columns 6 (a) and (b) of the Adangal. The Board of Revenue initiated necessary action in this direction as early as September 1970.

2. *Training of personnel.*—The regular enumeration work under Agricultural Census was preceded by intensive training of personnel at various levels. The Deputy Director of Agricultural Census and the Assistant Director of Statistics (Agricultural Census) conducted training classes for all the Tahsildars, Special Tahsildars and District Statistical Officers in the districts. At the taluk level, the Tahsildars conducted classes for all the Deputy Tahsildars and Revenue Inspectors. The Taluk Statistical Inspectors

and the Revenue Inspectors in turn conducted detailed instruction classes for all the Karnams at the firka level. The total number of training classes held at various centres exceeded 300.

3. *Questionnaires and Instructions*.—(a) *Census*.—The Agricultural Census on a complete enumeration basis was carried out in all the districts of the State except the Nilgiris and Kanyakumari. The census envisaged collection of data in respect of each operational holding by retabulating the data already available in the village records. A copy of the proforma in which the data on individual holdings are recorded is given in Annexure 12. This proforma for collection of data contains the following items :—

(i) Identification particulars of the cultivator, name of village, Karnam's circle, Revenue Division and Taluk.

(ii) Tenure Status.

(iii) Particulars of land utilisation.

(iv) Sources of irrigation.

(v) Net area irrigated and unirrigated under different crops for all the three crop seasons. (I Crop, II Crop and III Crop.)

Names of food and non-food crops together with respective code numbers are indicated on the reverse page of the proforma.

(b) *Sample Surveys*.—Sample surveys conducted in the Nilgiris and Kanyakumari districts comprised two parts, viz., general enquiry and detailed enquiry. The items covered under general enquiry stage conformed with items covered under census enumeration. During the detailed enquiry stage, information on additional items like agricultural inputs, livestock, agricultural implements, employment of farm population and association of agricultural holdings with other industries were collected. Copies of proforma used under sample surveys are given in Annexures 13 to 26.

Detailed instructions for the proper conduct of Census work and sample surveys were issued to the field staff along with the proforma.

4. *Definitions*.—This Chapter has commenced with an elucidation of certain concepts involved in Agricultural Census. A more detailed note on definitions and terminologies used is given below :—

Size Classes of Operational Holdings.

The operational holdings have been grouped under twelve size classes (viz.), 0-0.5, 0.5-1, 1-2, 2-3, 3-4, 4-5, 5-10, 10-20, 20-30, 30-40, 40-50 and above 50 hectares. The value of the upper limit of each size class belongs to the next higher class.

Irrigation.

For the purpose of Agricultural Census, irrigation is considered to denote the practice of purposively providing land with water, other than rain, by artificial means for crop production.

Area owned.

Land owned or held in owner like possession includes—

(a) Lands held directly from Government under a grant, lease or assignment (i) with right of permanent, heritable and transferable possession and (ii) with right of permanent and heritable possession but without the right of transfer;

(b) Land held from persons other than Government (i) with right of permanent, heritable and transferable possession and (ii) with right of permanent and heritable possession but without the right of transfer.

Area rented or leased in.

Area rented in by a tenant (other than those who are treated as owners by virtue of owner like possession) who has possession of land without the right of ownership constitutes area rented in by the tenant.

Wholly irrigated.

Wholly irrigated holdings are those in which the total "net sown area" is irrigated.

Wholly unirrigated.

If the entire "net sown area" of a holding is unirrigated that holding would be considered as wholly unirrigated.

Partly irrigated.

If a part of the "net sown area" of a holding is irrigated that holding would be considered as partly irrigated.

Form of Tenure—Wholly owned and self-operated.

This denotes those holdings which are wholly owned less land leased out and self-operated.

Form of Tenure—Rented from others.

This denotes those holdings which are wholly rented for fixed money, for fixed produce, for share of produce and others.

More than one form of tenure.

This denotes those holdings which are partly owned and partly rented.

Land uses.

For the purpose of consolidation of holdingwise data, Utilisation of land classified under nine categories in the "Adangal" has been regrouped into six categories (as explained below).

Net sown area.

This represents the total area sown with crops and orchards, counting area sown more than once in the same year only once (i.e., area under first crop only).

Current fallows.

This represents the cropped area which are kept fallow during the current year.

Other uncultivated land excluding fallow land.

This represents the area under permanent pastures and other grazing lands and land under miscellaneous tree crops as explained below :—

(a) Permanent pastures and other grazing lands—

These include all grazing lands, whether they are permanent pastures and meadows or not. Village common grazing lands have been excluded for the purposes of Agricultural Census.

(b) Land under miscellaneous tree crops, etc.—

This includes all cultivable land which is not included in the net area sown, but put to some agricultural use. Lands under casuarina trees, thatching grasses, bamboo bushes and other groves for fuel, etc., which are not included under "Orchards" have been included under this category.

Fallow land other than current fallows.

This represents all lands which were taken up for cultivation but are temporarily out of cultivation for a period of not less than one year and not more than five years.

Culturable waste.

This represents all lands available for cultivation whether or not taken up for cultivation or taken up for cultivation once but not cultivated during the current year and previous five years in succession.

Not available for cultivation.

This represents the area under private forests, barren and unculturable land and land put to non-agricultural uses.

Net cultivated area.

This represents the total of "net area sown" and "current fallows".

Sourcewise area irrigated.

This represents the area irrigated under first crop only.

Other sources of irrigation.

These include private canals, springs, thangals, etc.

Gross cropped area.

This represents the total of all areas cultivated once and more than once in the same year.

Gross cropped area irrigated.

This represents the total of all irrigated areas cultivated once and more than once in the same year.

Gross cropped area unirrigated.

This represents the total of all unirrigated areas cultivated once and more than once in the same year.

Ragi and other cereals.

These include Ragi, Korra, Varagu, Samai, Wheat, Barley, Maize, Kudiravalli and other cereals.

Other non-food crops.

These include palmyrah, other sugar crops, mesta, sunhemp, other fibres, dyes and tanning materials, rubber, indian hemp, cinchona, betelvines, tobacco, green manure crops, etc.

5. *Publicity.*—The importance of Agricultural Census in the context of planning requirements can hardly be over emphasised. There is need to create awareness in the public, especially those living in the countryside, regarding the importance of Agricultural Census data. This could be achieved through wide publicity which also helped in removing inhibitions in the rural areas to give out information. The declaration of the agricultural year 1970-71 as World Agricultural Census year was given due publicity in the press and other media. The public were further enlightened on the subject through press conferences.

VI. PROCEDURES ADOPTED IN THE COLLECTION OF THE PRELIMINARY DATA.

The Agricultural Census has made a specific distinction between the actual cultivator and the owner of the land and it has given cognizance to the former as the basic unit for collection of census data. For this purpose, the data already available in the village records were instructed to be retabulated in rough registers by the village Karnams. In Village Account No. 2 (Adangal) entries are made separately in regard to each survey number/sub-division number. The name of the registered holder or name of other occupier for each field and the name of the cultivating tenant are also required to be entered in columns 6 and 6 (a) respectively of the Adangal. In section 1 of Village Account No. 10 (Chitta) fieldwise particulars of each individual holding are recorded. But these relate to ownership holdings only and not operational holdings in respect of which alone data are to be collected for the purpose of Agricultural Census. Hence retabulation of data for each operational holding from the entries made in the Adangal in conjunction with the Chitta and the Karnams' local knowledge was instructed to be made.

2. For the purpose of consolidation of holdingwise data (operational holding) utilisation of land classified under the following nine categories recorded in the Adangal were regrouped into six categories as shown below:—

Nine fold classification in the Adangal.	Six fold classification required in the Census form.
1 Net area sown	1 Net area sown.
2 Current Fallows	2 Current Fallows.
3 Permanent pastures and other grazing lands.	3 Other uncultivated land excluding fallow land.
4 Land under miscellaneous tree crops and groves not included in the net area sown.	

5 Other fallow land	4 Fallow land other than current fallows.
6 Culturable waste .. * ..	5 Culturable waste.
7 Forests	6 Not available for cultivation.
8 Barren and unculturable land .. }	
9 Land put to non-agricultural uses .. }	

VII. TABULATION—PROCEDURES AND PROBLEMS.

(i) *Procedures.*—(1) As the field enumeration work stepped up its pace, the filled-in schedules started pouring in relentlessly at the State Headquarters. The Headquarters was almost flooded with about 50 lakhs of filled-in schedules from the districts. The scrutiny and summarisation of data from such a huge mass of schedules into meaningful tables was a stupendous task. The problem of tabulation of such mass of data without detriment to accuracy was more keenly felt since various phases of the work had to be completed as stipulated in the time schedule.

(2) The filled-in schedules were thoroughly scrutinised without exception at the State Headquarters by the Assistant Statistical Investigators, who were appointed for this purpose. Their work was supervised by the Research Assistants, who in addition to supervising the work of the scrutiny staff, checked the scrutinised schedules on a random basis so as to ensure that the schedules were properly checked. All the scrutinised schedules were given numeric codes to facilitate processing on the computer and the coded schedules were passed on to the machine unit for punching the data on the cards.

(3) For the purpose of transferring data on to punched cards, sophisticated card punches and verifiers were hired and installed in the Directorate of Agricultural Census. After the cards were punched and verified, they were sorted and stored in an airconditioned store room till such time they were taken up for processing on the computer.

(4) A suitable edit programme was designed by means of which the computer was programmed to transfer the data from the punch cards to magnetic tapes, to check for validity of codes and internal consistencies of data and to print out such of those data having invalid codes and internal inconsistencies. Based on the print out of errors produced by the computer, corrections were carried out with reference to original schedules and fresh cards punched, verified and sorted and then incorporated again. From the data now available on the magnetic tape village-wise tables (I-VI) were created and stored on magnetic tape itself. In the final phase, the village-wise tables were accumulated to produce the district table printouts (Annexures 27 to 32).

(5) The tabulation procedure in the case of sample survey in the Nilgiris and Kanyakumari districts similarly involved pre-punching scrutiny of schedules, coding of schedules, punching of data on the cards and processing on the computer. The multiplying factors for various items of estimation were derived for each stratum in the Nilgiris and Kanyakumari districts. Using these multiplying factors the computer was programmed to arrive at district estimates from sample aggregates and to print out final tables (Annexures 33 to 55).

(ii) *Problems.*—This being the first instance of mechanical tabulation on such a large scale and processing of data using a computer, some problems were encountered. The output and accuracy of the Punch Operators was low in the initial stage as all of them were new recruits. The Punch Operators picked up speed and accuracy as the work gained momentum and their output became satisfactory. Some snags in the programme design were noticed at the time of actual processing which resulted in the modification of the earlier design, which in turn involved extra computer time.

VIII. TIME TABLE OF OPERATION.

The Agricultural Census Operations were both complex and enormous. At the same time census had to be a time bound programme. The entire operation was successfully carried out in accordance with a wellknit plan and time schedule, as illustrated by the following table :—

<i>Serial number and type of operation.</i>	<i>Period.</i>
(1)	(2)
1 Training of field staff and supervisory staff.	June 1971 to August 1971.
2 Retabulation of data	August 1971 to October 1971.
3 Receipt of schedules	October 1971 to March 1973.
4 Pre-punching scrutiny	October 1971 to March 1973
5 Mechanical Tabulation	November 1971 to March 1973.
6 Processing on the Computer	April 1972 to July 1973.
7 Finalisation of report	August 1973 to December 1973.

CHAPTER VI.

ANALYSIS OF CENSUS RESULTS.

I. AGRICULTURAL SYSTEM.

The process of transformation of the tradition bound agricultural system to a modern one, requires structural policies in agriculture towards improvement of the efficiency of factor combination, i.e., better utilisation of land, capital, labour and entrepreneurship. This necessarily involves organisation of farms of economic sizes appropriate to the given conditions of climate and soil, modification of the existing system of land tenure and utilisation of improved practices commensurate with the size of the units, that is units capable of producing for sale at home or abroad, at profitable prices. Several land reform measures to bring about changes in the agrarian social structure, to improve the living conditions of small farmers as also to contribute to the economic development of the State have been introduced during the course of the Five-Year Plans in the State. As a result, the gap between ownership and actual cultivation is also substantially bridged to ensure increased agricultural productivity. Unemployment in agriculture is considerably reduced by offering excess lands to landless labourers. Evils of tenancy like exorbitant rents and indebtedness of the farmers have started losing their grip on the farmers. The convergent effects of land reforms and other development measures carried out so far should find expression in the size of farm enterprises, in so far as these become better adjusted to the sociological and economic conditions, in different parts of the State.

2. There are also long term strategies for raising the country's production potential now under execution, i.e., research to further improve crop varieties, plant protection systems, other essentially technological bases of agricultural production, increased tempo of development of agricultural input industries and input distribution facilities and services, large new investments in irrigation, rural electric power facilities, roads and transport facilities, improvements in agricultural research, extension of educational institutions and services. With the detailed basic information on the structure and characteristics of operational holdings now made available, more effective agricultural policies, promotional as well as educational, could be formulated at various levels for various areas.

3. At the outset, an analysis of the holdingwise data under 12 size groups consolidated for the districts, regions and for the State is attempted. For the purposes of analysis in this chapter, eleven districts will be treated as State, unless the Nilgiris and Kanyakumari are mentioned specially. The size classes, from "0-0.5" to "Above 50" hectares, accounting for twelve size classifications will be denoted by the serial number of the size classes, either as individual or group.

II. STATE TABLES (Eleven Districts).

(i) *Number of Holdings and Area Operated.*—The Agricultural Census 1970-71 has produced an enormous volume of data on 5.02 million holdings under twelve size classes. The various statistical components of each holding have been thoroughly tested and checked for their technical validity and accuracy both manually and on the computer. They have been aggregated for individual districts as required by the Government of India. Based on

the results of the census, the percentage of area operated with respect to the geographical area for each of the 13 agricultural districts in the State is indicated below :—

TABLE I.

<i>Serial number and district.</i>						<i>Geographical area.</i>	<i>Operated area.</i>
(1)						(2)	(3)
						HECTARES.	PER CENT.
1	Chingleput	..	..	..	..	8,24,798	52.93
2	South Arcot	..	..	..	..	10,89,883	63.68
3	North Arcot	..	..	..	..	12,30,223	50.34
4	Salem	..	..	..	..	8,62,005	57.01
5	Dharmapuri	..	..	..	..	9,62,914	46.21
6	Coimbatore	..	..	..	..	15,60,653	63.50
7	Tiruchirappalli	..	..	..	..	14,25,850	67.27
8	Thanjavur	..	..	..	..	9,68,246	60.84
9	Madurai	..	..	..	..	12,61,243	55.53
10	Ramanathapuram	..	..	..	..	12,42,762	63.33
11	Tirunelveli	..	..	..	..	11,41,622	65.01
12	The Nilgiris	..	..	..	..	2,54,474	28.21
13	Kanyakumari	..	..	..	..	1,66,828	56.96
State						1,29,91,501	59.34

The figures relating to the Nilgiris and Kanyakumari districts have been estimated through sample surveys.

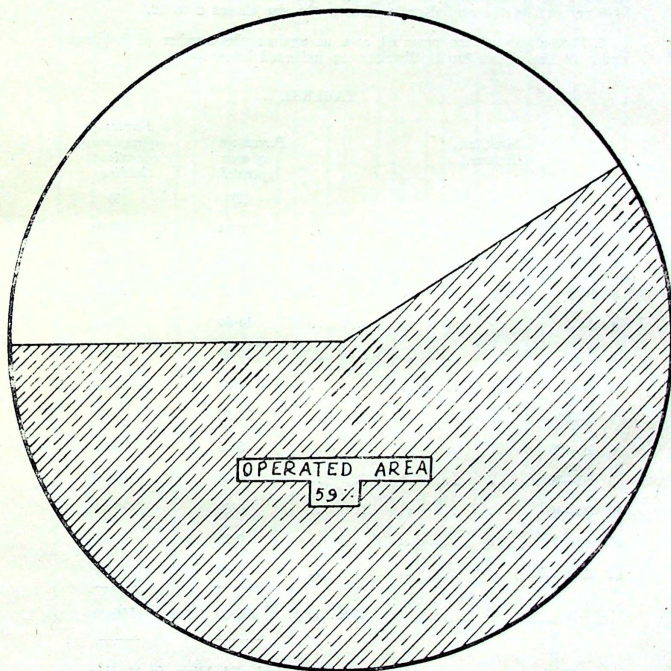
2. The operated area covers 77,09,207.90 hectares or 59.34 per cent of the geographical area in the State. It is above 62 per cent in the individual districts of South Arcot, Coimbatore, Tiruchirappalli, Thanjavur, Ramanathapuram and Tirunelveli. Amongst the districts, Coimbatore is geographically the largest and correspondingly, the spread of operated area in this district is higher than any other district in the State.

3. The extent operated is less than 47 per cent in Dharmapuri and the Nilgiris districts as considerable area in these districts is covered under forests. In Kanyakumari, which is geographically the smallest district in the State, the operated area accounts for more than half the size of the district.

4. The holdingwise data consolidated for eleven districts in the State comprises of 5,014,929 or 99.9 per cent of individual holdings and 3,312 or 0.1 per cent joint holdings. The area under individual holdings is 75.16 lakh hectares or 99.6 per cent as against 0.27 lakh hectares or 0.4 per cent under joint holdings.

GEOGRAPHICAL AREA AND OPERATED AREA IN THE STATE

GEOGRAPHICAL AREA 100%



5. Both the area and numbers under joint holdings are not very significant in the State. The distribution of area under joint holdings is scattered over all the size classes. Under the size groups 1 to 6 and 9 to 11, the area distribution is in the order of few hundreds of hectares, ranging from 167 to 693 while the area under the size classes 7, 8 and 12 is 1,353.0, 1,219.8 and 20,457.5 hectares respectively, the last item being covered mainly under tea and coffee plantations. It is, therefore, seen that a very small number of joint holdings are clustered within the size classes accommodating larger sized holdings. A large number of holdings are clustered within the size classes 1 to 7, accounting for only 15.4 per cent of the area as against 84.6 per cent of the area distributed over the size classes 8 to 12.

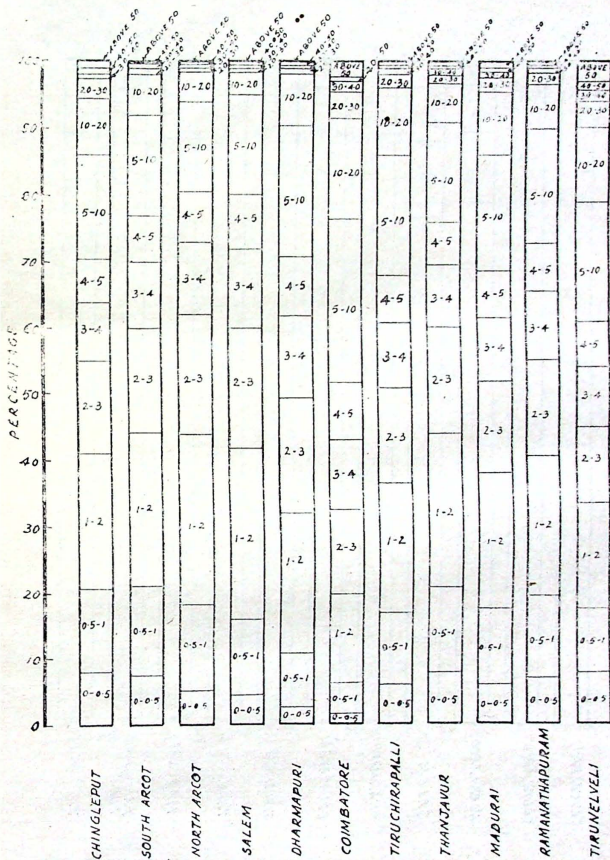
6. Percentages of the operated area as against the number of holdings under 12 size classes for 11 districts are indicated below :—

TABLE II.

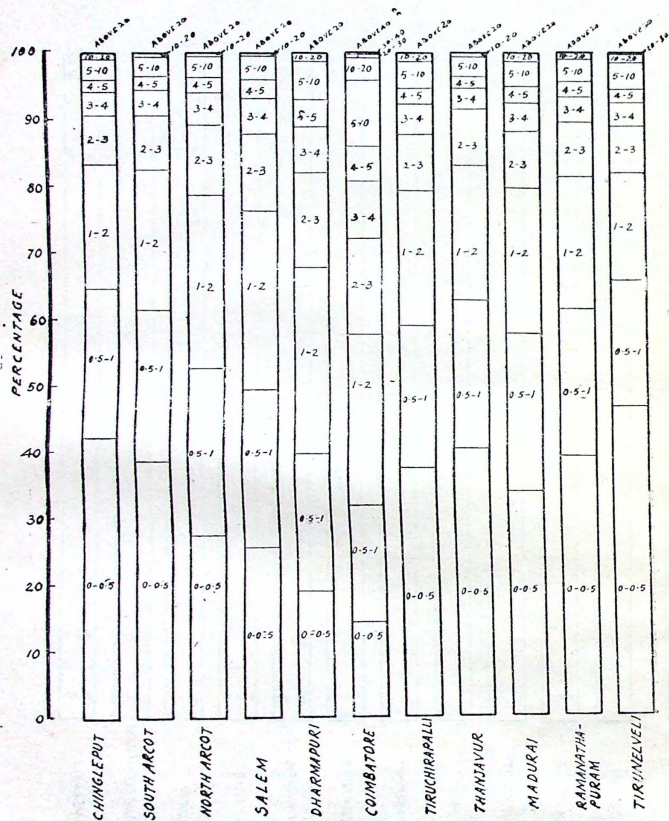
Size Class. (Hectares.)						Percentage of area operated.	Percentage of number of operational holdings.
(1)						(2)	(3)
1	0—0.5	..	..	..	..	5.94	35.01
2	0.5—1	..	..	..	..	10.68	22.15
3	1—2	..	..	..	..	20.42	21.55
4	2—3	..	..	..	..	14.84	9.21
5	3—4	..	..	..	..	10.24	4.47
6	4—5	..	..	..	..	7.45	2.52
7	5—10	..	..	..	..	17.52	3.92
8	10—20	..	..	..	..	8.55	0.98
9	20—30	..	..	..	..	2.08	0.13
10	30—40	..	..	..	..	0.87	0.04
11	40—50	..	..	..	..	0.35	0.01
12	Above 50	..	..	..	..	1.06	0.01
Total ..						100.00	100.00

7. 57.20 per cent of the total number of individual holdings in 11 districts is distributed over the size classes 1 and 2 accounting for 16.68 per cent of the total area, with a holding size pattern of less than one hectare while the remaining 83.32 per cent of the area is covered by 42.80 per cent of the holdings in the State. In the third size class the proportion is 20.49 per cent of the area as against 21.55 per cent of the holdings which is rather significant. From the fourth size class to the sixth size class, the holding size pattern is less than 5 hectares in 16.2 per cent of the individual operational holdings, sharing 32.6 per cent of the operated area in the State. 5.1 per cent of the individual operational holdings, accounting for 30.2 per cent of the operated area in the State is distributed over the size classes 7 to 12 with a holding size pattern of more than 5 hectares each.

PERCENTAGE DISTRIBUTION OF OPERATED AREA IN TWELVE SIZE-CLASSES



PERCENTAGE OF THE NUMBER OF OPERATIONAL HOLDINGS IN TWELVE SIZE-CLASSES



8. It is seen that in the first group, 1-3, the area coverage is progressively increasing from the first size class to the third size class with a corresponding decrease in the number of individual holdings. In the second group, there is a decreasing trend from the fourth to the sixth size class in the number of holdings and area. In the third group, 7-12, the trend is on the descent from the seventh to the eleventh class with a slight increase in the number and area of holdings in the twelfth class over the eleventh class.

(ii) *Type of Tenures.*—The percentage distribution of area and holdings under three types of tenures, within each size class, is indicated below :—

TABLE III.

Serial number and Size Class (Hec.)	Owned and self-operated.		Holdings operated under one form of tenure.		Holdings operated under more than one form of tenure.		
	Number.	Area.	Number.	Area.	Number.	Area.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT
1 0—0.5 ..	94.30	93.60	4.85	5.29	0.85	1.11	
2 0.5—1 ..	92.02	91.96	5.21	5.17	2.77	2.87	
3 1—2 ..	90.55	90.47	4.66	4.61	4.79	4.92	
4 2—3 ..	89.90	89.93	3.50	3.42	6.60	6.65	
5 3—4 ..	90.93	90.94	2.14	2.12	6.93	6.94	
6 4—5 ..	91.35	91.35	1.77	1.76	6.88	6.89	
7 5—10 ..	91.64	91.66	1.47	1.46	6.89	6.88	
8 10—20 ..	92.37	92.39	1.24	1.24	6.39	6.37	
9 20—30 ..	92.55	92.50	1.59	1.58	5.86	5.92	
10 30—40 ..	91.29	91.26	2.45	2.47	6.26	6.27	
11 40—50 ..	90.03	89.98	3.27	3.17	6.70	6.85	
12 Above 50	90.96	92.97	3.77	3.37	5.27	3.66	
Total ..	92.23	91.29	4.39	3.13	3.38	5.58	

2. It may be seen that self operated holdings and area are predominant in the State, i.e., 92.23 per cent of holdings as against 91.29 per cent of operated area. The area under more than one form of tenure is more than the area under tenant operated holdings.

3. The owned and self-operated area proportion is the highest in the first size class and the second largest in the twelfth size class. From the second size class onwards the proportion decreases gradually upto the fourth size class. In the fifth size class the proportion shows an increase and continues upto the ninth size class and then in the tenth size class there is a sudden decrease which continues in the eleventh size class also.

(iii) *Land Utilisation*.—The percentage proportions of Land Utilisation, such as area sown, current fallows, uncultivated area excluding fallows, fallows other than current fallows, etc., are given below :—

TABLE IV.

<i>Serial number and Size Class (Hec.)</i>	<i>Net sown area.</i>	<i>Current fallows.</i>	<i>Uncultivated excluding fallows.</i>	<i>Fallows other than current fallows.</i>	<i>Culturable waste land.</i>	<i>Not available for cultivation.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
1 0—0.5 ..	83.83	11.22	1.09	1.20	1.00	1.66
2 0.5—1 ..	83.15	11.63	0.80	1.67	1.22	1.53
3 1—2 ..	80.84	12.98	0.90	2.18	1.40	1.61
4 2—3 ..	79.64	13.42	0.98	2.59	1.73	1.63
5 3—4 ..	78.71	13.79	1.05	2.94	1.81	1.70
6 4—5 ..	77.55	14.36	1.27	3.14	1.92	1.76
7 5—10 ..	74.88	15.88	1.71	3.54	2.18	1.81
8 10—20 ..	67.76	19.38	3.28	4.67	2.87	2.04
9 20—30 ..	58.81	22.69	4.78	6.79	4.22	2.71
10 30—40 ..	52.67	23.99	7.33	8.34	4.83	2.84
11 40—50 ..	49.07	23.00	6.77	8.79	7.08	5.29
12 Above 50	46.40	15.09	8.10	7.76	8.17	14.48
Total ..	77.28	14.40	1.53	2.96	1.95	1.88

2. The proportion of area sown is the highest in the first size class and the next highest in the second size class. In the subsequent five size classes it approximates to the State total, after which a steady decrease sets in from the eighth size class to the twelfth size class. The percentage share of area under other land uses shown in columns 4, 5, 6 and 7 is above the State total in the size classes 7 to 12 while it is lower in the size classes 1 to 6. It would be worthwhile to examine the reasons for such large proportions of operated area lying as either current or old fallows or as culturable waste. The aggregate of the proportions under fallows other than current fallows and culturable waste combined together, is the highest in the size classes 11 and 12 and the lowest (2.20 per cent) in the size class 1.

3. The net cultivated area (net area sown + current fallows) is above 90 per cent of the operated area under the size classes 1 to 7 and below 88 per cent in the case of the size classes 8 to 11 while the twelfth size class accounts for the lowest (61.49 per cent) proportion.

(iv) *Sourcewise Irrigation*.—The percentage share of area irrigated under different sources is indicated below :—

TABLE V.

Serial number and Size Class (Hec.)	Total irrigated area as percentage of operated area.	Area irrigated by				
		Canals as percentage of total (net) irriga- ted area.	Tanks as percentage of total (net) irriga- ted area.	Tube wells as percent- age of total (net) irrigated area.	Wells as percentage of total (net) irriga- ted area.	Other sources as per- centage of total (net) irrigated area.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 0—0.5 ..	51.16	33.98	45.44	1.37	18.31	0.90
2 0.5—1 ..	41.65	35.60	37.23	1.52	24.85	0.80
3 1—2 ..	35.44	35.62	32.39	1.65	29.57	0.77
4 2—3 ..	32.61	35.29	30.06	1.91	31.99	0.75
5 3—4 ..	30.28	31.83	30.29	2.06	24.97	0.85
6 4—5 ..	29.01	31.64	29.74	2.34	35.48	0.80
7 5—10 ..	27.17	31.49	28.44	2.49	36.71	0.87
8 10—20 ..	22.53	28.53	27.56	2.77	39.94	1.20
9 20—30 ..	18.52	26.82	28.79	2.27	40.98	1.14
10 30—40 ..	17.57	29.26	31.00	2.51	36.06	1.17
11 40—50 ..	14.20	35.54	25.62	3.33	33.31	2.20
12 Above 50 ..	8.14	34.15	30.74	2.82	26.07	6.22
Total ..	32.19	33.61	32.62	1.94	30.97	0.86

2. 32.19 per cent, of the operated area is irrigated by different sources in the State. The percentage of the sown area irrigated in the State is 41.65. This coverage is distributed under the following sources :—

	Per cent.
(1) Canals	33.61
(2) Tanks	32.62
(3) Tube wells	1.94
(4) Wells	30.97
(5) Others	0.86
406-2—11A	

3. The proportion of area irrigated under canals ranges from 26.82 per cent to 35.62 per cent. It is higher than the State proportion (33.61 per cent) in the size classes 1 to 4, 11 and 12 and it is lower in the remaining size classes. The proportion of tank irrigation is the highest with 45.44 per cent in the first size class and the lowest in the eleventh size class. The coverage under tube wells is less than 2 per cent in the case of the first four size classes while it is more than 2 per cent in the remaining size classes and the maximum coverage (3.33 per cent) is under the size class 11. Wells constitute one of the three sizeable sources of irrigation in the State. The proportion in the six size classes (5 to 10) is above 34 per cent while it is lower in the remaining size classes. The proportion is the lowest (18.31 per cent) in the first size class and the highest (40.98 per cent) in the size class 9. The trend in the proportion of irrigated area under other sources in the size classes 1 to 7 is more or less similar to the State total while it is above the State total in the case of the size classes 8 to 12. The maximum proportion (6.22 per cent) is found in the twelfth size class.

4. The sown area and the proportions irrigated under the twelve size classes are indicated below :—

TABLE VI.

Serial number and Size Class (Hec.)	Sown area	Cropped area.	Net area irrigated.	Irrigated area gross as percentage of sown area.
(1)	(2)	(3)	(4)	(5)
	(Hec.)	PER CENT.	PER CENT.	PER CENT.
1 0—0.5 ..	375,726.76	126.95	61.03	83.88
2 0.5—1 ..	670,134.16	122.12	50.08	68.26
3 1—2 ..	1,245,163.83	119.32	43.84	59.19
4 2—3 ..	891,539.79	117.78	40.94	54.85
5 3—4 ..	607,700.72	116.69	38.47	51.35
6 4—5 ..	436,056.32	116.12	37.41	49.76
7 5—10 ..	989,165.82	115.12	36.29	47.58
8 10—20 ..	436,935.79	113.35	33.25	42.75
9 20—30 ..	92,340.21	111.55	31.49	39.16
10 30—40 ..	34,576.18	110.64	33.36	40.73
11 40—50 ..	12,809.56	109.69	28.95	35.00
12 Above 50 ..	36,916.88	104.45	17.54	21.15
Total ..	5,829,066.02	117.93	41.65	55.72

5. Of the net area sown, 41.65 per cent is irrigated. The area irrigated more than once is 55.72 per cent as against 117.93 per cent of cropped area. Under the first two size classes the area cultivated more than once is above 22 per cent while it is above 15 per cent under the size classes 3 to 7. In the remaining size classes it is more than 4 per cent. The cropping intensity is the highest (126.95 per cent) in the first size class and the second highest (122.12 per cent) in the next size class and subsequently the trend has tapered off to 104.45 per cent. A similar declining trend is observed in the area irrigated, both net and gross. Under the first two size

classes net area irrigated is above 50 per cent. The lowest coverage in the net area irrigated is 17.54 per cent under the twelfth size class and the highest is 61.03 per cent under the first size class. The overall trend in the first seven classes (1 to 7) under cropped area is indicative of the progress in the intensification of farming.

(v) *Area under Crops*.—The size classwise cropped area and its distribution under foodgrains and non-foodgrains for the State are shown below :—

TABLE VII.

Serial number and Size Class - Hec.	Gross cropped area as percentage of operated area.	Area under	
		Food grains as percentage of gross cropped area.	Non-food grains as percentage of gross cropped area.
(1)	(2)	(3)	(4)
1 0—0.5 ..	106.42	78.94	21.06
2 0.5—1 ..	101.54	74.71	25.29
3 1—2	96.46	72.12	27.88
4 2—3	93.80	70.39	29.61
5 3—4	91.86	68.44	31.56
6 4—5	90.05	67.74	32.26
7 5—10	86.20	66.46	33.54
8 10—20	76.80	62.71	37.29
9 20—30	65.60	59.77	40.23
10 30—40	58.27	58.58	41.42
11 40—50	53.83	54.52	45.48
12 Above 50 ..	43.46	29.63	70.37

2. It is seen that the decrease in the proportions of area under foodgrains is followed by a corresponding increase in the proportions of area under non-foodgrains. The larger the size class the greater is the magnitude in the diversification of farming. The proportions of cropped area under foodgrains are considerably large under the first four size classes. Under the size classes 9 to 12, the proportions of cropped area are rather low resulting in more diversification in cropping pattern.

III. REGION AND DISTRICT TABLES.

(i) *National Sample Survey Regions.*

1. The National Sample Survey Organisation has divided this State into three regions. The regions and the districts comprised therein are shown below :—

<i>N. S. S. Region.</i>	<i>Districts.</i>
I Coastal Northern Region	Madras City, Chingleput, South Arcot and North Arcot Districts.
II Coastal Southern Region	Ramanathapuram, Thanjavur, Tirumelveli and Kanyakumari Districts.
III Inland Region	Salem, Dharmapuri, Coimbatore, Tiruchirappalli, Madurai and the Nilgiris Districts.

The Agricultural Census 1970-71 has precluded Madras City because of its urban character. In the Nilgiris and Kanyakumari districts, sample surveys have been conducted to collect the required data and the results are discussed at the end of this chapter.

2. Amongst the three, the third (Inland) region covers the largest operated area of 35.9 lakh hectares under 20.3 lakh holdings. The second region covers 22.1 lakh hectares under 16.6 lakh holdings as against 17.5 lakh hectares under 13.3 lakh holdings in the first region.

3. The per holding size of operated area in the three regions is indicated below :—

(I) Coastal Northern Region	.. .. .	1.32 Hectares.
(II) Coastal Southern Region	.. .. .	1.33 ..
(III) Inland Region	.. .. .	1.77 ..

4. The Inland Region with a share of 47.56 per cent of the total operated area in the State has the highest per holding area in the State. The remaining two regions have almost the same per holding area inspite of variations in the coverage of operated area.

5. The proportionate share of area and number of individual and joint holdings in all the regions is indicated below :—

TABLE VIII.

Regions.	Joint holdings.		Individual holdings	
	Number.	Area.	Number	Area.
(1)	(3)	(4)	(5)	(2)
	PER CENT.	PER CENT	PER CENT	PER CENT
I Coastal Northern	0.038	0.061	99.962	99.939
II Coastal Southern	0.085	0.136	99.915	99.864
III Inland	0.069	0.635	99.931	99.365
State	0.066	0.355	99.934	99.645

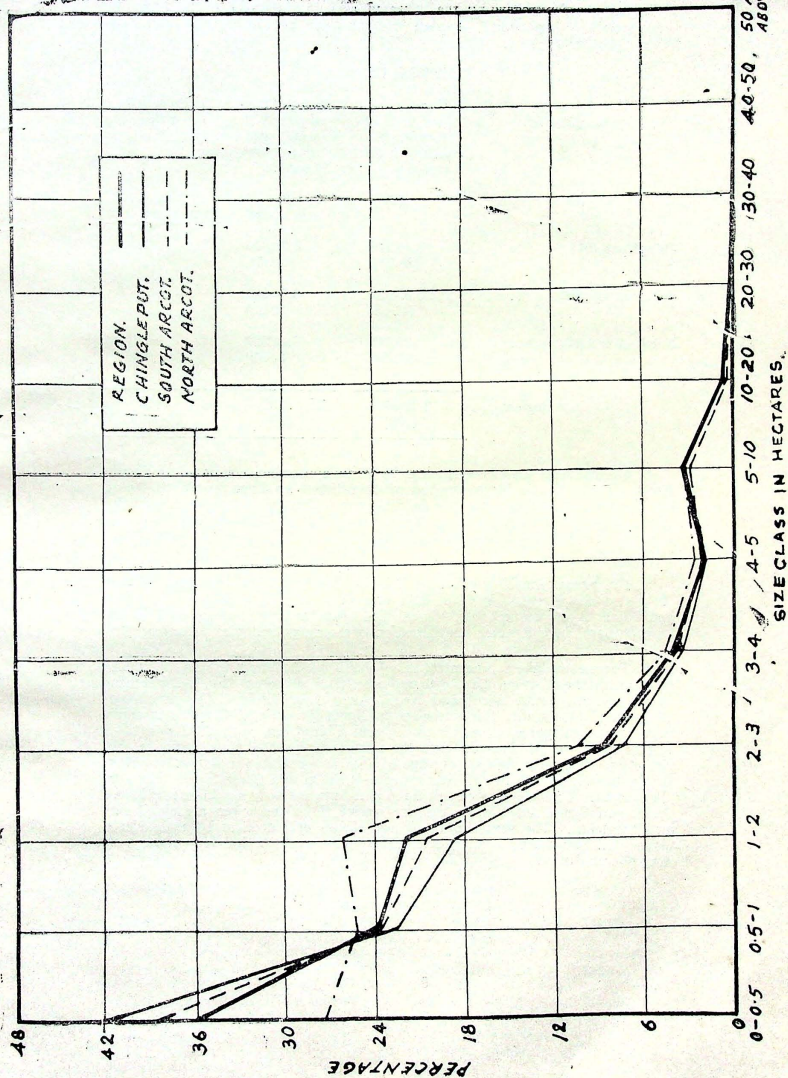
It may be seen that both area and number of joint holdings are less than 1 per cent and hence not very significant.

(ii) *Number of holdings and area operated.*

(1) *Coastal Northern Region.*—In the Coastal Northern Region, the first six size classes cover 96.4 per cent of the holdings and 76.8 per cent of the operated area. The per holding operated area works out to 1.05 hectares as against the regional average of 1.32 hectares. 3.6 per cent of the holdings distributed over the next six successive size classes cover 23.2 per cent of the operated area, the average holding size being 8.4 hectares.

2. The percentage of joint holdings in the region is 0.038 and it is 0.087 and 0.048 in Chingleput and North Arcot respectively. Even this small percentage of holdings is found only in the first four size classes. No case of joint holdings has been reported in South Arcot.

SIZE-WISE DISTRIBUTION OF HOLDINGS IN COASTAL NORTHERN REGION AND ITS COMPONENT DISTRICTS



3. The position regarding the operated area and number of holdings in the districts of the region together with the per holding size is indicated in the table below :—

TABLE IX.

<i>Name of district.</i>	<i>Number and percentage of number of holdings in the region.</i>	<i>Operated area and percentage of operated area within the region.</i>	<i>Per holding size.</i>
(1)	(2)	(3) (HECTARES)	(4) (HECTARES)
Chingleput (01)	3,40,798 (25.71)	4,36,595 (24.95)	1.28
South Arcot (02)	5,52,038 (41.65)	6,94,081 (39.66)	1.26
North Arcot (03)	4,32,717 (32.64)	6,19,322 (35.39)	1.43
Region	13,25,553 (100)	17,49,998 (100)	1.32

4. The operated area is much less in Chingleput when compared to South Arcot. However the large number of operational holdings in South Arcot has resulted in a very low per holding area, though this district has the largest share of operated area in the region. The per holding size in North Arcot is the highest in the region, though the area operated is lesser than South Arcot.

5. The percentage of number of holdings operating less than one hectare (first two size classes), is 64.8, 62.1 and 52.7 in Chingleput, South Arcot and North Arcot respectively. It is seen that the per holding area is the lowest where there is much concentration of holdings and vice versa.

6. The next highest concentration of holdings is found in the third size class in all the districts, i.e., 18.6 per cent, 20.6 per cent and 26.2 per cent in Chingleput, South Arcot and North Arcot respectively. The percentage of operated area under this size class in North Arcot is 26.0 which is significant when compared to South Arcot and Chingleput with 23.2 and 20.5 respectively. In all these districts the maximum operated area is under this size class. The next highest coverage of area is found in the fourth size class in South Arcot and North Arcot while it is in the seventh size class in Chingleput. Thus the size classes three and four are very significant in North Arcot and South Arcot while the size classes three and seven are significant in Chingleput. The next significant size classes are seven and five in North Arcot and South Arcot as against the fourth and fifth size classes in Chingleput district.

7. The overall area coverage in all the four significant size classes (districtwise) is indicated below :—

TABLE X

<i>District.</i>	<i>Percentage of number of holdings under the size classes 3+4+5+7 to the total in the district.</i>	<i>Percentage of area under the size classes 3+4+5+7 to the total in the district.</i>	<i>Per holding size for all the size classes (Hectares).</i>
(1)	(2)	(3)	(4)
Chingleput (01)	32.27	59.05	2.34
South Arcot (02)	35.32	64.08	2.28
North Arcot (03)	44.34	68.58	2.21
Coastal Northern Region ..	37.48	64.42	2.27

8. There is heavy concentration of area under these size classes in North Arcot; next in order come South Arcot and Chingleput. Conversely, the per holding area is the maximum in Chingleput, followed by South Arcot and North Arcot.

9. The pattern of distribution of operated area under the first six size classes in the three districts depicts a picture of symmetry. Starting from the first size class, the increasing trend reaches its peak at the third size class and then slopes down, gradually decreasing to the sixth size class. There is an upturn in the seventh class and then from the subsequent class onwards, the curve slopes down decreasing gradually upto the eleventh class. The twelfth class shows a slight increase over the eleventh.

(II) *Coastal Southern Region.*—In the Coastal Southern Region 95.7 per cent of the holdings, distributed over the first six size classes cover 70.0 per cent of the operated area, the average holding size being 0.97 hectare. 4.3 per cent of the holdings distributed over the next six successive size classes cover 30.0 per cent of the operated area, the average holding size being 9.27 hectares.

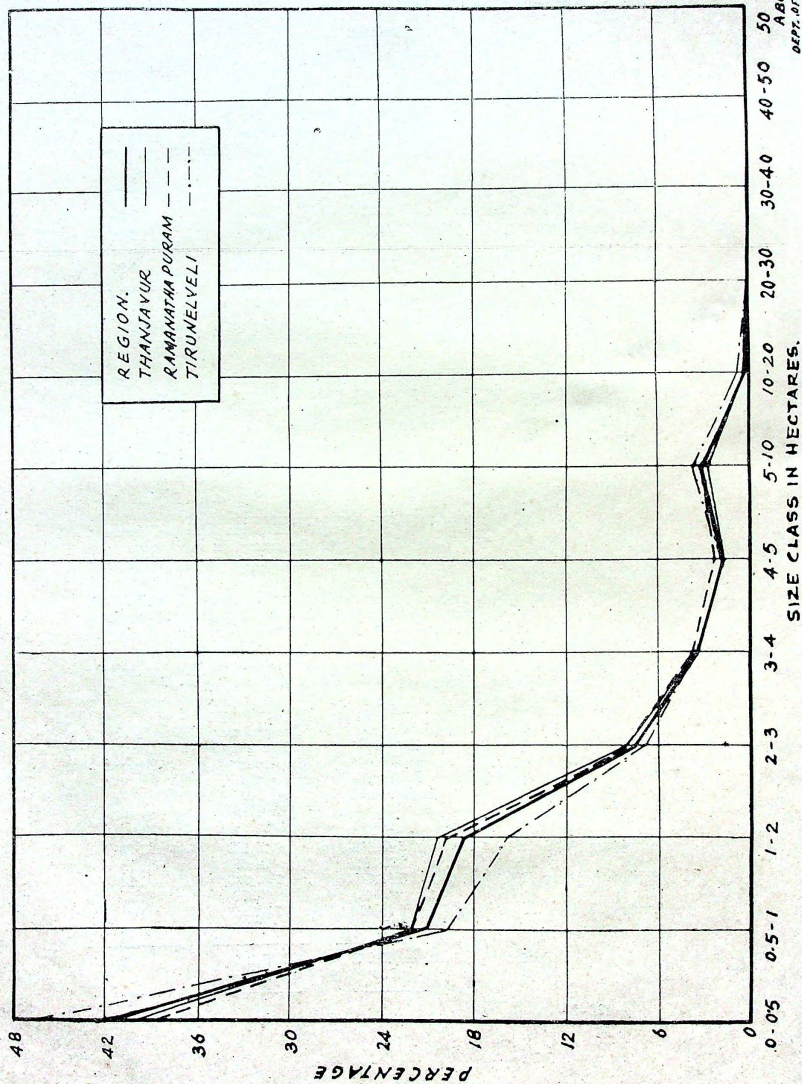
2. The percentage of joint holdings in the region is 0.085 while it is 99.915 in the case of individual holdings. This small percentage of joint holdings is found mostly in the first three size classes, the maximum being in the first size class in all the three districts comprising the region.

3. The position regarding the operated area, number of holdings and per holding size within the districts of the region is indicated below :—

TABLE XI.

<i>District.</i>	<i>Number and percentage of number of holdings in the region.</i>	<i>Operated area and percentage of operated area in the region. (Hectares)</i>	<i>Per holding size (Hectare).</i>
(1)	(2)	(3)	(4)
Thanjavur (08)	5,48,066 (32.99)	6,76,183 (30.66)	1.23
Ramanathapuram (10) ..	5,88,741 (35.44)	7,87,096 (35.69)	1.34
Tirunelveli (11)	5,24,456 (31.57)	7,42,167 (33.65)	1.42
Region	16,61,263 (100)	22,05,446 (100)	1.33

SIZE-WISE DISTRIBUTION OF HOLDINGS IN COASTAL SOUTHERN REGION AND ITS COMPONENT DISTRICTS



4. The variations in the proportions of the number of holdings and area operated between districts in the region are very small. The variations range between 1 to 4 per cent and 3 to 5 per cent in respect of holdings and area respectively. The average per holding size in Ramanathapuram is very close to the regional average.

5. The maximum number of operational holdings is accommodated in the first size class (0 to 0.5 hectare), in all the districts uniformly while the maximum extent of operated area is found in the third size class in Thanjavur and Ramanathapuram and in the seventh size class in Tirunelveli. The third, fourth and seventh size classes accommodate the major portion of operated area in the districts. As much as 51.0 per cent of the operated area in the region is under these three size classes (3, 4 and 7) while it is 46.1 per cent, 52.6 per cent and 54.3 per cent in Tirunelveli, Ramanathapuram and Thanjavur respectively.

6. A broad grouping of twelve size classes into two categories, i.e., one to six and seven to twelve may perhaps facilitate a detailed analysis of the trends that persist between the size groups within districts and in the region.

7. There is a gradual increase in the operated area right from the first size class, till the trend reaches its peak at the third size class. The trend, then gradually decreases upto the sixth size class, uniformly in all the districts in the region. The overall trend in these six classes depicts a picture of symmetrical distribution or a histogram. There is a sudden up-turn in the seventh class and from the next size class onwards there is a decrease, gradually continuing upto the eleventh size class. The twelfth size class shows a small increase over the eleventh. This trend is typical of all the three districts as also of the region.

8. A further analysis of the concentration of holdings under various size classes may perhaps throw light on the economic conditions of the farming community in the region. In the first two size classes (0 to 1.0 hectare), the coverage of the number of holdings in the region is 63.4 per cent. The bulk of the farming community in the region have only 19.2 per cent of the operated area. The corresponding figures of coverage of the number of holdings and the operated area for the individual districts are 62.8 per cent and 20.8 per cent for Thanjavur, 61.6 per cent and 19.4 per cent for Ramanathapuram and 66.0 per cent and 17.5 per cent for Tirunelveli.

9. From among the remaining ten size classes, the size classes three to eight representing 75.5 per cent of the operated area as against 36.4 per cent of the operational holdings in the region constitute a very significant group. The remaining size classes are less significant. The position of the size group 3 to 8 in the districts, with per holding size is indicated below :—

TABLE XII.

<i>District.</i>	<i>Number and percentage of number of operational holdings in the size classes 3 to 8.</i>	<i>Operated area and percentage in size classes 3 to 8. (Hectares).</i>	<i>Per holding size. (Hectares)</i>
(1)	(2)	(3)	(4)
Thanjavur (08)	2,03,210 (37.08)	5,14,390.98 (76.07)	2.53
Ramanathapuram (10) ..	2,25,571 (38.31)	6,09,773.00 (77.47)	2.70
Tirunelveli (11)	1,76,475 (33.65)	5,40,958.90 (72.89)	3.07
Region	6,05,256 (36.43)	16,65,122.88 (75.50)	2.75

10. The per holding size is the maximum in Tirunelveli while with regard to the total operated area it occupies the second position. The total area operated is the maximum in Ramanathapuram while the per holding size is less than Tirunelveli. The area coverage and per holding size are the lowest in Thanjavur district.

(III) *Inland Region*.—The districtwise break up of the number of joint and individual holdings with per holding area is indicated below :—

TABLE XIII.

<i>District.</i>	<i>Joint holdings.</i>	<i>Individual holdings.</i>	<i>Per holding size. (Hectare.)</i>
(1)	(2)	(3)	(4)
Salem (04)	22	3,24,471	1.51
Dharmapuri (05)	2	2,29,952	1.94
Coimbatore (06)	336	3,56,466	2.78
Tiruchirappalli (07)	923	6,52,718	1.47
Madurai (09)	115	4,66,420	1.50

2. The number of joint holdings in all the districts of the region is only nominal. In the region, the per holding size is very significant in Coimbatore followed by Dharmapuri and both are higher than the regional average. While the magnitude of the size is almost uniform in the remaining three districts, they are lower than the regional average by about quarter of an hectare.

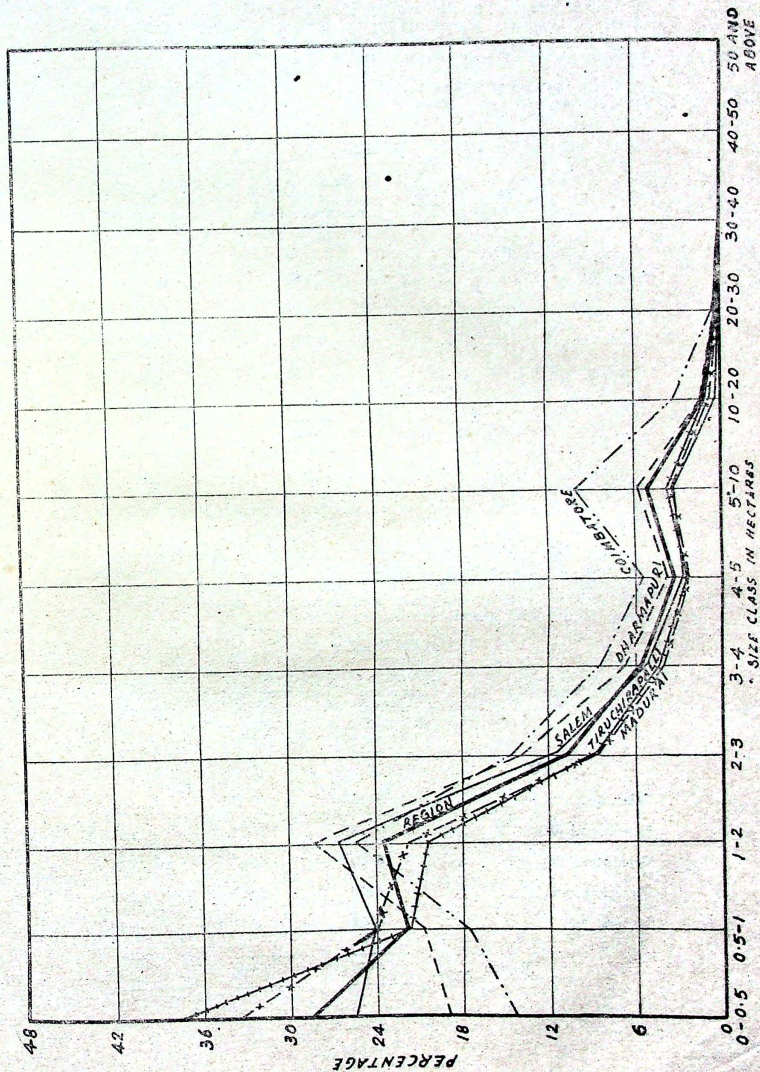
3. The distribution of holdings under different size classes in the districts may be broadly grouped into two categories, i.e., (1) upto sixth size class and (2) from seventh to twelfth size class. There is concentration of holdings in the first group and this trend is maintained uniformly in all the five districts of the region. The area under these holdings is more than 65 per cent in each of the four districts while it is 51.9 per cent in Coimbatore district.

4. In the first six size classes, there is a trend of increase and decrease in the operated area uniformly in all the districts. The rising trend reaches its peak in the third size class and the decreasing trend starts from the fourth class and goes upto the sixth class. Then there is a sudden rise in the seventh class which has the largest coverage of area in the second group. From eighth class onwards there is a gradual decrease reaching upto the eleventh class. The twelfth class shows a small increase over the eleventh uniformly in all the districts. It may also be of interest to note that the area under the third and seventh size classes is very significant uniformly in all the districts. The districtwise percentage of operated area and holdings is indicated in the table below :—

TABLE XIV.

<i>Name of district.</i>	<i>Percentage of number of operational holdings under 3rd and 7th size classes combined.</i>	<i>Percentage of area operated under 3rd and 7th size classes combined.</i>
(1)	(2)	(3)
Salem (04)	30.22	39.89
Dharmapuri (05)	34.16	41.03
Coimbatore (06)	35.67	38.14
Tiruchirappalli (07)	23.98	37.23
Madurai (09)	25.71	38.07
Region	28.58	38.48

SIZE-WISE DISTRIBUTION OF HOLDINGS IN INLAND REGION AND ITS COMPONENT DISTRICTS



5. 38.48 per cent of the operated area is covered under the two size classes alone. The maximum number of operational holdings are found in the third size class in Salem, Dharmapuri and Coimbatore while it is the maximum in the first size class in Tiruchirappalli and Madurai.

6. The operational holdings in the first two size classes are rather below the subsistence level of farming and these constitute a significant group in each of the districts of the region.

TABLE XV.

<i>District.</i>	<i>Percentage of number of operated holdings (1+2 size classes)</i>	<i>Percentage of the total of area operated (1+2 size classes).</i>
(1)	(2)	(3)
Salem (04)	49.62	16.48
Dharmapuri (05)	39.72	10.75
Coimbatore (06)	32.01	6.33
Tiruchirappalli (07)	59.30	17.04
Madurai (09)	57.89	17.62
Region ..	50.42	13.34

7. In the region, the number of small holdings is very significant in Tiruchirappalli, Madurai and Salem districts while in Coimbatore and Dharmapuri these holdings and area are considerably far below the other districts.

8. Barring this size group with 13.34 per cent of the operated area, the remaining 86.66 per cent of the operated area under 49.58 per cent of the total number of holdings with an average holding size of 3.1 hectares constitutes a very significant part of operated area in the region. The position within districts is indicated below :—

TABLE XVI.

<i>District.</i>	<i>Percentage of number of holdings (3 to 12 Size classes combined.)</i>	<i>Percentage of operated area (3 to 12 size classes combined.)</i>	<i>Per holding size. (Hectare.)</i>
(1)	(2)	(3)	(4)
Salem (04)	50.38	83.52	2.51
Dharmapuri (05)	60.28	89.25	2.87
Coimbatore (06)	67.99	93.67	3.83
Tiruchirappalli (07)	40.70	82.96	2.99
Madurai (09)	42.11	82.38	2.94
Region ..	49.58	86.66	3.09

9. In this size group, the per holding area is the maximum in Coimbatore while it is the lowest in Salem. In Dharmapuri, Tiruchirappalli and Madurai the per holding sizes approximate each other.

(iii) *Area Irrigated and Unirrigated.*

(1) *Coastal Northern Region.*—The Coastal Northern Region has a total (wholly irrigated area and actual area irrigated wholly in the partly irrigated holdings) irrigation coverage of 7,67,068 hectares, as against a net sown area of 14,27,182 hectares in the region. The districtwise break up of area actually irrigated is indicated in the table below :—

TABLE XVII.

District	Net area sown (Hectares and Percentage)	Total irrigated area (Hectares and Percentage.)	Percentage of net area irrigated.
(1)	(2)	(3)	(4)
Chingleput (01)	3,26,220 (22.86)	2,38,065 (31.04)	72.98
South Arcot (02)	5,88,866 (41.26)	2,96,176 (38.61)	50.30
North Arcot (03)	5,12,096 (35.88)	2,32,827 (30.35)	45.47
Region	14,27,182 (100)	7,67,068 (100)	53.75

2. The irrigation coverage in Chingleput is 72.98 per cent of the net sown area as against the regional average of 53.75 per cent. The share of the district in the total irrigated area in the region is about 31 per cent and the position is almost similar in North Arcot. The irrigation coverage in North Arcot, however, is 45.47 per cent, being the lowest in the region. The share of South Arcot in the irrigated area in the region is the largest (39 per cent).

3. In the region, the size classes 1 and 2 constitute a significant group since they account for 73.1 per cent of the holdings covering 34.8 per cent of the total wholly irrigated area. The next significant group comprises of size classes 3 to 7 with a coverage of 61.4 per cent of the wholly irrigated area under 26.6 per cent of the holdings in the region. The districtwise position is indicated below :—

TABLE XVIII.

District	Wholly irrigated holdings. (IN PERCENTAGES)		Total area irrigated. (IN PERCENTAGES)	
	Size Class.	Size Class.	Size Class.	Size Class.
	1—2	3—7	1—2	3—7
(1)	(2)	(3)	(4)	(5)
Chingleput (01)	70.2	29.3	30.2	64.0
South Arcot (02)	76.0	23.8	36.1	60.9
North Arcot (03)	72.9	26.9	41.1	57.2
Region	73.1	26.6	34.8	61.4

4. The contrast in coverage of holdings and area under the two size groups as seen from the table above is very significant in the case of South Arcot where a large number of small holdings are wholly irrigated. In Chingleput, a very large portion of irrigated area (64.0 per cent) is covered under the size classes 3 to 7 comprising 29.3 per cent of the holdings irrigated. In North Arcot 41.1 per cent of the area is irrigated under the small holdings—which is the highest in the region.

5. The area wholly irrigated in the region is 426,781 hectares as against 3,40,287 hectares of area actually irrigated under partly irrigated holdings. The total number of operational holdings wholly irrigated is 555,759 as against 379,787 operational holdings partly irrigated. The districtwise break up of area irrigated and number of holdings in respect of partly irrigated holdings is indicated below :—

TABLE XIX.

District.	Number of holdings and operated area under irri- gated holdings.		Actual area irrigated (Hectare and Percentage.)	Actual area irrigated as percentage of Column 3.
	Number and Percentage.	Hectare and Percentage.		
(1)	(2)	(3)	(4)	(5)
Chingleput (01) ..	59,860 (15.76)	1,17,161 (16.26)	66,263 (19.47)	56.56
South Arcot (02) ..	1,60,334 (42.22)	3,00,362 (41.67)	1,34,285 (39.46)	44.71
North Arcot (03) ..	1,59,593 (42.02)	3,03,181 (42.07)	1,39,739 (41.07)	46.09
Region ..	3,79,787 (100)	7,20,704 (100)	3,40,287 (100)	47.22

6. The partly irrigated holdings are more in number in South Arcot while the operated area under partly irrigated holdings is the maximum in North Arcot. Though the actual area irrigated is the lowest in Chingleput, the proportion of area irrigated to the total area of partly irrigated holdings is the highest in that district.

7. The major proportion viz., 97.01 per cent of total number of holdings with 82.10 per cent of operated area in respect of wholly unirrigated holdings in the region is under the first five size classes leaving a very smaller number of holdings and a small operated area under the size classes 6 to 12. The break up of these proportions within districts is indicated in the table below :—

TABLE XX.

District.	Percentage of number of wholly un-irrigated holdings-1 to 5 size classes.		Percentage of operated area under wholly unirrigated holdings-1 to 5 size classes.	
	(1)	(2)	(3)	(4)
Chingleput (01)	96.58	.. .. .	75.25
South Arcot (02)	97.15	.. .. .	80.78
North Arcot (03)	97.02	.. .. .	85.74
Region	97.01	.. .. .	82.10

8. The percentage of unirrigated holdings is the maximum in South Arcot while the percentage of operated area is the maximum in North Arcot. In all the districts of the region, the unirrigated holdings and area covered by them are very predominant under the size classes 1 to 5. In the remaining size classes 6 to 12, the number of holdings and operated area are less than 5 per cent and 25 per cent respectively.

(II) *Coastal Southern Region*.—The total irrigated area including the actual area irrigated under partly irrigated holdings in the region is of the order of 840,932 hectares as against an extent of 16,32,265 hectares of sown area in the region. The districtwise break up of this area is indicated in the table below :—

TABLE XXI.

<i>District.</i>	<i>Net area sown (Hectare and Percentage).</i>	<i>Total irrigated area (Hectare and Percentage).</i>	<i>Percentage of of net area irrigated.</i>
(1)	(2)	(3)	(4)
Thanjavur (08)	5,97,892 (36.6)	4,92,855 (58.6)	82
Ramanathapuram (10)	5,83,369 (35.7)	2,07,990 (24.7)	36
Tirunelveli (11)	4,51,004 (27.7)	1,40,087 (16.7)	31
Region	16,32,265 (100)	8,40,932 (100)	52

2. A maximum of 82 per cent of the sown area is irrigated in Thanjavur while the share of irrigated area of the district in the region is 58.6 per cent which is significant. Only 31 per cent of the sown area is irrigated in Tirunelveli, which is the lowest in the region. The share of the district in respect of irrigated area also is the lowest in the region. Ramanathapuram is the second largest in the region in respect of area sown and area irrigated.

3. In this region, the holdings wholly irrigated under the first two size classes constitute a very significant cluster, with a coverage of 75.9 per cent of holdings and 38.8 per cent of area. The remaining 24.1 per cent of the holdings in the region cover 61.2 per cent of area of which 23.8 per cent of holdings with 58.5 per cent of area are under the size classes 3 to 7. The remaining size classes, 8 to 12, constitute a very insignificant group in the region. The position in the individual districts is indicated below :—

TABLE XXII

<i>District.</i>	<i>Wholly irrigated holdings. (in percentages).</i>		<i>Wholly irrigated area. (in percentages).</i>	
	<i>Size Classes.</i>	<i>Size Classes.</i>	<i>Size Classes.</i>	<i>Size Classes.</i>
	1—2	3—7	1—2	3—7
(1)	(2)	(3)	(4)	(5)
Thanjavur (08)	68.6	31.2	30.8	66.5
Ramanathapuram (10)	78.1	21.7	44.2	53.5
Tirunelveli (11)	84.6	14.9	56.8	39.8
Region	75.9	23.8	38.8	58.5

4. The contrast between the two size groups of holdings is very sharp and significant. In the case of Thanjavur, 68.6 per cent of the small holdings covering 30.8 per cent of area wholly irrigated are under the size classes 1 and 2, as against 31.2 per cent of holdings with 66.5 per cent of area wholly irrigated under the size classes 3 to 7. There is an increasing trend in the percentage number of small holdings relating to Thanjavur, Ramanathapuram and Tirunelveli in the size classes 1 and 2 while it is on the decrease under the size classes 3 to 7. Similarly there is increasing and decreasing trend in the percentage figures of area under the size classes 1 and 2 and 3 to 7 respectively in these three districts. In Tirunelveli, the area under small holdings (1-2) is higher than that under the size group 3-7, while the trend in the remaining two districts is quite the reverse, the area of small holdings being less than the area of bigger holdings (3-7).

5. It may be seen that 99.7 per cent of holdings (columns 2 and 3) covering 97.3 per cent of area (columns 4 and 5) are under the size classes 1 to 7 in the region. Among the districts, the coverage under holdings with 99.8 per cent and area with 97.7 per cent is the highest in Ramanathapuram, followed by Thanjavur with 99.8 per cent of holdings and 97.3 per cent of area.

6. The area wholly irrigated in the region is of the order of 494,718 hectares while the actual area covered under the holdings partly irrigated works out to 3,46,214 hectares. The detailed districtwise break up of partly irrigated holdings is indicated in the table below :—

TABLE XXIII.

District.	Number of holdings and operated area under partly irrigated holdings.		Actual area irrigated	Actual area irrigated
	Number and Percentage.	Area in Hectares and Percentage.	in Hectares and Percentage.	as per- centage of area in Column 3.
(1)	(2)	(3)	(4)	(5)
Thanjavur (08)	1,48,644	2,68,973	2,09,298	77.81
	(45-08)	(40-75)	(60-45)	
Ramanathapuram (10) ..	1,11,788	2,44,660	86,523	35.36
	(33-90)	(37-06)	(24-99)	
Tirunelveli (11)	69,298	1,46,482	50,393	34.40
	(21-02)	(22-19)	(14-56)	
Region	3,29,730	6,60,116	3,46,214	52.45
	(100)	(100)	(100)	

7. The number of partly irrigated holdings is the highest in Thanjavur and the lowest in Tirunelveli district. Of the total area actually irrigated in the region, the share of Thanjavur is the maximum (60.45 per cent) and the share of irrigated area in the total area of the partly irrigated holdings in the district works out to 77.81 per cent which is very significant. Both Ramanathapuram and Tirunelveli together share 39.55 per cent of the irrigated area while the share of Thanjavur alone is 60.45 per cent.

8. The bulk of the partly irrigated area and holdings are covered under the size classes 2 to 8, with 84.1 per cent of holdings and 93.0 per cent of area in the region. The particulars regarding the distribution of holdings and area under these size classes in the districts are given below :—

TABLE XXIV.

District.	(1)	Partly irrigated holdings and area under size classes 2 to 8.	
		Number. (Percentage.)	Area. (Percentage.)
		(2)	(3)
Thanjavur (08)	78.9	93.4
Ramanathapuram (10)	90.6	94.9
Tirunelveli (11)	84.9	89.2
Region	84.1	93.0

The percentage figures of number of holdings and area under the size classes 2 to 8 are the highest in Ramanathapuram and the lowest in respect of number of holdings in Thanjavur and area in Tirunelveli.

9. The total unirrigated area in the region is of the order of 48 per cent of the sown area or 7,91,333 hectares. Of this, the area under wholly unirrigated holdings constitutes 60.3 per cent. The share of wholly unirrigated area in the total unirrigated area is the highest (69.1 per cent) in Tirunelveli and the lowest (43.2 per cent) in Thanjavur.

10. The major portion of the unirrigated area under 99.0 per cent of the holdings is distributed over the size classes 1 to 7 in the region and the remaining 9.8 per cent of the area under 1 per cent of the holdings is distributed under the size classes 8 to 12. The details of distribution in the districts are noted in the table below :—

TABLE XXV.

District.	Wholly unirrigated			
	Holdings (Percentage.)		Holdings area (Percentage)	
	1—3	4—7	1—3	4—7
(1)	(2)	(3)	(4)	(5)
Thanjavur (08)	91.4	8.1	50.8	37.9
Ramanathapuram (10)	81.9	17.5	48.6	45.7
Tirunelveli (11)	77.1	21.4	36.9	49.4
Region	81.6	17.4	43.6	46.6

The number of holdings distributed over the size classes 1 to 3 is very significant in the region. Among the districts, there is maximum percentage coverage in Thanjavur; next in order come Ramanathapuram and Tirunelveli. Conversely, the percentage coverage of area under the size classes 4 to 7, is the highest in Tirunelveli; next in order come Ramanathapuram and Thanjavur.

(III) *Inland Region*.—Among the three regions, the Inland Region is the largest in the State with an irrigated extent of 819,772 hectares comprising 401,775 hectares under wholly irrigated holdings and 417,997 hectares of actually irrigated area under partly irrigated holdings as against 27,69,621 hectares of net sown area. The area under wholly irrigated holdings is less than the area actually irrigated under partly irrigated holdings. The districtwise break up of area is given in the table below :—

TABLE XXVI.

District.	Net sown area. Hectare and Per cent.	Irrigated area under wholly irrigated holdings. Hectare and Percentage.	Area irrigated under partly irrigated holdings. Hectare and Percentage.	Total irrigated area (3+4). Hectare and Percentage.	Percentage of irri- gated area in sown area (5/2 × 100).
(1)	(2)	(3)	(4)	(5)	(6)
Salem (04)	3,96,090	54,359	52,626	1,06,985	27.01
	(14.30)	(13.53)	(12.59)	(13.05)	
Dharmapuri (05)	3,84,607	12,134	43,736	55,870	14.53
	(13.89)	(3.02)	(10.46)	(6.82)	
Coimbatore (06)	7,17,043	1,25,598	1,26,290	2,51,888	35.13
	(25.89)	(31.26)	(30.21)	(30.73)	
Tiruchirappalli (07)	7,17,434	1,08,104	1,09,996	2,18,100	30.40
	(25.90)	(26.91)	(26.32)	(26.60)	
Madurai (08)	5,54,447	1,01,580	85,340	1,86,929	33.71
	(20.02)	(25.28)	(20.42)	(22.80)	
Region	27,69,621	4,01,775	4,17,997	8,19,772	29.60
	(100)	(100)	(100)	(100)	

2. In the region, 29.60 per cent of the sown area is irrigated. Among the districts, the total irrigated area is the largest in Coimbatore, the second largest in Tiruchirappalli and the lowest in Dharmapuri. Out of the total area irrigated under wholly irrigated and partly irrigated holdings in the region, area coverage under the latter is more than that under the former and the trend is similar in Tiruchirappalli, Coimbatore and Dharmapuri, while it is the reverse in the case of Salem and Madurai.



3. A study of the trends of the percentage distribution of number and area of wholly irrigated holdings under various size classes, reveals that there is concentration of holdings in the region to the tune of 69.95 per cent as against 33.29 per cent of area in the first two size classes, while there is concentration of area to the tune of 62.93 per cent as against 29.65 per cent of holdings under the size classes 3 to 7. In the remaining size classes, the coverage works out to 0.40 per cent of holdings accounting for 3.75 per cent of area in the region which is not very significant.

4. An analysis of the trend of the percentage distribution of actual irrigated area under partly irrigated holdings of various size classes indicates that the overall bulk is sparsely distributed over the size classes 2 to 8, each size class accounting for an average of 13.5 per cent of area, the aggregate coverage being 92.15 per cent of holdings and 94.16 per cent of the area.

5. In order to facilitate the analysis of trends within districts, the particulars of percentage distribution of holdings and area irrigated under specific size group are given in the table below :—

TABLE XXVII.

Wholly irrigated holdings.						
District.	Size classes. 1—2		Size classes. 3—7		Size classes. 8—12	
	Holdings Percentage.	Area Percentage.	Holdings Percentage.	Area Percentage.	Holdings Percentage.	Area Percentage.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Salem (04)	64.19	32.18	35.69	66.77	0.12	1.05
Dharmapuri (05)	81.72	53.30	18.24	46.13	0.04	0.57
Coimbatore (06)	47.42	16.73	51.29	75.61	1.29	7.66
Tiruchirappalli (07)	79.11	45.80	20.66	51.94	0.23	2.26
Madurai (09)	74.46	38.64	25.31	58.90	0.23	2.46
Region	69.95	33.29	29.65	62.93	0.40	3.78

Partly irrigated holdings.				
District.	Size classes. 2—8		Size classes. 1 and 9—12	
	Holdings. Percentage.	Actual area irrigated Percentage.	Holdings. Percentage.	Actual area irrigated Percentage.
(1)—cont.	(8)	(9)	(10)	(11)
Salem (04)	92.48	97.06	7.52	2.94
Dharmapuri (05)	93.86	97.01	6.14	2.99
Coimbatore (06)	96.00	92.41	4.00	7.59
Tiruchirappalli (07)	89.29	93.83	10.71	6.17
Madurai (09)	91.37	93.91	8.63	6.09
Region	92.15	94.16	7.85	5.84

6. It may be seen from the table that the magnitude of concentration of wholly irrigated holdings under the size classes 1-2 is very high in Dharmapuri with 81.72 per cent and low in Coimbatore with 47.42 per cent. In the remaining districts, the percentage share of holdings ranges between

64.19 and 79.11. The percentage share of area irrigated under the size classes 3 to 7 is the highest in Coimbatore and the lowest in Dharmapuri. On an average about 70 per cent of the holdings in a district under the size classes 1 and 2 cover only about 33 per cent of the area while about 30 per cent of the holdings under the size classes 3 to 7 cover about 63 per cent of the area.

7. Under the size classes 8 to 12, Coimbatore occupies the highest position in the region with 1.29 per cent of holdings and 7.66 per cent of area while in the remaining districts, the holdings are less than 1 per cent and the area less than 3 per cent. The holdings and area covered under the size classes 8 to 12 account for 0.40 per cent and 3.78 per cent respectively in the region, which is not very significant.

8. About 92 per cent of partly irrigated holdings with about 94 per cent of actual area irrigated are distributed over the size classes 2 to 8 in the region. In this size group the proportion of holdings is the highest in Coimbatore (96.0 per cent) while the proportion of area is the highest in Salem (97.88 per cent). In the remaining districts, the percentage distribution of holdings and area ranges between 89.29 per cent and 93.86 per cent and 90.58 per cent and 96.64 per cent respectively. It is seen from the above table that the percentage coverage of holdings and area is small under the size classes 1 and 9 to 12 uniformly in all the districts of the region.

9. The total unirrigated area (area under wholly unirrigated holdings and the unirrigated area under partly irrigated holdings) forms 70.40 per cent of the sown area in the region. Among the districts of the region, Dharmapuri occupies the highest position and Coimbatore the last position in terms of percentage of unirrigated area to sown area. The districtwise percentage share is noted below :—

	PER CENT.
(1) Salem	73.0
(2) Dharmapuri	85.5
(3) Coimbatore	64.9
(4) Tiruchirappalli	69.6
(5) Madurai	66.3

10. 53.2 per cent of wholly unirrigated holdings covering 19.4 per cent of the area are accommodated in the first two size classes. The next five size classes (3 to 7) accommodate 46.1 per cent of holdings covering 73.9 per cent of the area. The share of the remaining size classes, 8 to 12 is 0.7 per cent of holdings with 6.7 per cent of the area. It is, therefore, evident that the bulk of the unirrigated area in the region is distributed under the size classes 3 to 7 while the bulk of the number of unirrigated holdings is in the first two size classes.

11. The districtwise break up of area under the significant size classes is given in the table below :—

TABLE XXVIII.

District.	Wholly unirrigated				
	Holdings under size classes.		Area under size classes.		
	1—2	3—7	1—2	3—7	
	(Percentage)	(Percentage)	(Percentage)	(Percentage)	
(1)	(2)	(3)	(4)	(5)	
Salem (04)	55.2	44.6	22.4	74.1	
Dharmapuri (05)	43.3	56.2	15.7	81.2	
Coimbatore (06)	35.0	63.6	10.5	77.7	
Tiruchirappalli (07)	62.1	37.2	24.1	69.9	
Madurai (09)	59.4	40.0	24.3	68.5	
Region	53.2	46.1	19.4	73.9	

More than 98 per cent of the unirrigated holdings are covered under the size classes 1 to 7 in each district. The proportion covered under the size classes 1 and 2 is very significant in all the districts except Dharmapuri and Coimbatore. The unirrigated area coverage is predominant under the size classes 3 to 7 in all the districts and the magnitude of coverage is above 77 per cent in Dharmapuri and Coimbatore while it is below 74 per cent in other districts.

(iv) *Type of Tenures.*

The operational holdings are grouped under the three types of tenures namely cultivating owners, share croppers or tenant cultivators and owner-cum-tenant cultivators. As gradation in the status of the cultivator and the variability in the size of the holding play a significant role in the productive efficiency, a detailed analysis of the structural set up within the districts and regions, with a view to bring out the salient features, is attempted here.

2. The regionwise distribution of holdings and area under the three types of tenure and under the significant size groups is shown in the table below :—

TABLE XXIX.

Region.	Size group.	Self operated	
		Holdings. Percentage.	Area. Percentage
(1)	(2)	(3)	(4)
Coastal Northern	1-2 ..	93.93	93.54
	3-8 ..	86.51	86.46
	9-12 ..	85.30	85.91
Coastal Southern	1-2 ..	90.28	89.77
	3-8 ..	89.26	89.27
	9-12 ..	91.31	90.91
Inland	1-2 ..	95.29	94.92
	3-8 ..	94.16	94.15
	9-12 ..	92.94	93.61
Tenant operated			
(1) —cont.	(2) —cont.	Holdings. Percentage	Area. Percentage
Coastal Northern	1-2 ..	3.55	3.69
	3-8 ..	1.97	1.95
	9-12 ..	2.43	2.39
Coastal Southern	1-2 ..	7.55	7.84
	3-8 ..	3.80	3.77
	9-12 ..	3.98	4.33
Inland	1-2 ..	3.73	4.00
	3-8 ..	1.91	1.89
	9-12 ..	1.68	1.42

Region.	Size group.	Owner-cum-tenant operated	
		Holdings. Percentage.	Area. Percentage.
(1)—cont.	(2)—cont.	(7)	(8)
Coastal Northern	{ 1—2 ..	2.52	2.77
	{ 3—8 ..	11.52	11.59
	{ 9—12 ..	12.27	11.70
Coastal Southern	{ 1—2 ..	2.17	2.39
	{ 3—8 ..	6.94	6.96
	{ 9—12 ..	4.71	4.76
Inland	{ 1—2 ..	0.98	1.08
	{ 3—8 ..	3.93	3.96
	{ 9—12 ..	5.38	4.97

3. In the first size group (1-2), more than 90 per cent of holdings with about 90 per cent of the area are under self cultivation. The Inland Region has the highest percentage of holdings and area while the Coastal Southern Region has the lowest percentage. The area under tenant operated holdings is higher than that under owner-cum-tenant operated holdings in all the regions.

4. In the second size group (3-8), the coverage under self cultivation ranges between 86.51 per cent and 94.16 per cent of holdings with 86.46 per cent and 94.15 per cent of area respectively. The owner-cum-tenants share holdings ranging between 3.93 per cent and 11.52 per cent with area ranging between 3.96 per cent and 11.59 per cent, the highest proportion being shared by the Coastal Northern Region and the lowest by the Inland Region.

5. In the size group 9-12, more than 85 per cent of holdings and area are under self operated holdings, the highest proportion being shared by the Inland Region and the lowest by the Coastal Northern Region. The share of owner-cum-tenant operated holdings is much higher than that of the tenant operated holdings in all the regions. It is the highest in the Coastal Northern Region with 12.27 per cent of holdings and 11.70 per cent of area while it is the lowest in the Coastal Southern Region with 4.71 per cent of holdings and 4.76 per cent of area.

6. It is thus seen that more than 85 per cent of holdings under all the size groups in the three regions enjoy the high gradation status of owner operated tenure.

7. A study of the trends within the districts of each region may perhaps throw light on the subtle relationship between different types of tenures and size groups.

(I) *Coastal Northern Region*.—The number of operational holdings and the total operated area in the region under different tenures are indicated below :—

TABLE XXX.

<i>Tenure Status.</i>	<i>Holdings. Number and Percentage.</i>	<i>Area. Hectare and Percentage.</i>	<i>Per holding size (Hec).</i>
(1)	(2)	(3)	(4)
Self operated	12,17,070 (91.82)	15,44,522 (88.26)	1.27
Tenant operated	41,884 (3.16)	43,458 (2.48)	1.04
Owner-cum-tenant operated ..	66,599 (5.02)	1,62,018 (9.26)	2.43
Total	13,25,553	17,49,998	1.3 2

2. The per holding size is the maximum under owner-cum-tenant operated cultivation; next in order comes owned and self operated holding followed by the tenant holding.

3. The average size of holding in individual districts of the region under the three types of tenures is indicated below :—

TABLE XXXI.

<i>District.</i>	<i>Per holding size (Hectare).</i>			
	<i>Self operated.</i>	<i>Tenant.</i>	<i>Owner-cum- tenant.</i>	<i>District average.</i>
(1)	(2)	(3)	(4)	(5)
Chingleput (01)	1.22	0.99	2.50	1.28
South Arcot (02)	1.22	0.92	2.46	1.26
North Arcot (03)	1.38	1.17	2.37	1.43

4. The districtwise average size of the operational holding is the maximum in North Arcot. The average size of the owner-cum-tenant operated holding is significant in each district. The average size of the tenant operated holding is the lowest when compared to that under self operated cultivation and owner-cum-tenant cultivation and it is less than one hectare in Chingleput and South Arcot. The magnitude of the size structure is comparatively better in North Arcot than in other districts.

5. The percentage distribution of the holdings and area under significant size groups within districts is given below :—

TABLE XXXII.

District, and Size group (1)	Self operated.		Tenant operated.		Owner-cum-tenant operated.	
	Holding. (2)	Area. (3)	Holding. (4)	Area. (5)	Holding (6)	Area. (7)
(PERCENTAGE).						
Chingleput (01)—						
1—2 ..	91.80	91.26	5.09	5.30	3.11	3.44
3—8 ..	83.18	83.15	3.05	3.01	13.77	13.84
9—12 ..	84.43	85.00	2.37	2.26	13.20	12.74
South Arcot (02)—						
1—2 ..	95.79	95.51	2.32	2.40	1.89	2.09
3—8 ..	90.23	90.14	1.06	1.05	8.71	8.81
9—12 ..	88.38	87.08	1.75	1.88	11.87	11.04
North Arcot (03)—						
1—2 ..	93.18	92.80	3.91	4.04	2.91	3.16
3—8 ..	84.48	84.44	2.25	2.23	13.27	13.33
9—12 ..	88.35	88.05	4.47	4.79	7.18	7.16

6. Considering the size group 1-2, the percentage figures of holdings and area under self operated cultivation are the highest in South Arcot, while they are the lowest in Chingleput. The corresponding percentage figures for the tenant operated cultivation and the owner-cum-tenant operated cultivation are the highest in Chingleput and the lowest in South Arcot. North Arcot occupies a middle position under all types of tenure.

7. Under the size group 3-8, the self operated cultivation is the highest in South Arcot (90.23 per cent of holdings and 90.14 per cent of area) while it is the lowest in Chingleput (83.18 per cent of holdings and 83.15 per cent of area). The tenant cultivation is the highest in Chingleput (3.05 per cent of holdings and 3.01 per cent of area) and it is the lowest in South Arcot (1.06 per cent of holdings and 1.05 per cent of area). The owner-cum-tenant operated cultivation is significant in Chingleput (13.77 per cent of holdings and 13.84 per cent of area) and in North Arcot (13.27 per cent of holdings and 13.33 per cent of area), while it is less significant in South Arcot (8.71 per cent of holdings with 8.81 per cent of area).

8. In the size group 9-12, the self operated cultivation in the three districts ranges between 84.43 per cent of holdings with 85.00 per cent of area and 88.35 per cent of holdings with 88.05 per cent of area. The tenant operated cultivation claims the highest share of 4.47 per cent of holdings with 4.79 per cent of area in North Arcot as against the lowest share of 1.75 per cent of holdings with 1.88 per cent of area in South Arcot. The owner-cum-tenant operated cultivation accounts for 13.20 per cent of holdings with 12.74 per cent of area in Chingleput, 11.87 per cent of holdings with 11.04 per cent of area in South Arcot and 7.18 per cent of holdings with 7.16 per cent of area in North Arcot.

9. Various types of rentals paid to the landlord by the tenants are discussed below. The percentage distribution of area operated under different types of rental payment is given in the table below in respect of the districts in the Coastal Northern Region :—

TABLE XXXIII.

<i>District and Size group.</i>	<i>Total area under tenant cultivation. (Hectares).</i>	<i>For fixed money</i>	<i>For fixed produce.</i>	<i>For share of produce.</i>	<i>Others.</i>
(IN PERCENTAGE)					
(1)	(2)	(3)	(4)	(5)	(6)
Chingleput—(01)					
1—2	4,820	12.76	20.14	63.51	3.59
3—8	10,395	14.67	19.76	61.15	4.42
9—12	463	5.61	14.47	75.38	4.54
Total ..	15,678	13.82	19.72	62.30	4.16
South Arcot—(02)					
1—2	3,553	13.82	40.98	41.43	3.77
3—8	6,413	15.53	43.18	37.94	3.35
9—12	114	26.32	..	73.68	..
Total ..	10,080	15.05	41.92	39.57	3.46
North Arcot—(03)					
1—2	4,624	11.96	16.57	67.86	3.67
3—8	12,858	16.62	21.70	58.61	3.07
9—12	218	54.13	21.10	24.77	..
Total ..	17,700	15.86	20.35	60.61	3.18

10. It is seen that the practice of "sharing the produce" with the landlord by the tenant cultivator is widely prevalent in all the districts. The payment of rental in terms of "fixed produce" has the next largest coverage of area, followed by the payment of rental in "fixed money". The area coverage under "others" is the lowest in all the districts of the region. In all these four modes of payment of rental to the landlord, the area coverage under the size group 3-8 is generally the maximum in all the districts.

11. The proportion of area coverage under "share of produce" in the size group 1-2 is the highest in North Arcot with 67.86 per cent, while it is the lowest in South Arcot. In the size group 3-8, the proportion is the maximum

in Chingleput while it is the lowest with 37.94 per cent in South Arcot. In the size group 9-12, the proportion is the highest in Chingleput, followed by South Arcot with 73.68 per cent and North Arcot with 24.77 per cent. A sparse distribution of area is observed in the case of size groups 3-8 and 9-12 coming under the other three types of rental.

(II) *Coastal Southern Region.*—The distribution of the operational holdings and area in the region under different tenures is given below :—

TABLE XXXIV.

<i>Tenure status.</i>	<i>Holdings. (Number and Percentage).</i>	<i>Area. (Hectare and Percentage).</i>	<i>Per holding size. (Hectare).</i>
(1)	(2)	(3)	(4)
1. Owned and self operated.	1,484,337 (89.35)	1,959,725 (88.86)	1.32
2. Tenant operated	116,453 (7.01)	113,624 (5.15)	0.98
3. Owner-cum-tenant operated.	60,473 (3.64)	132,098 (5.99)	2.18
Total ..	1,661,263 (100)	2,205,447 (100)	1.33

2. The average per holding size in the region is the maximum under owner-cum-tenant operated holdings and next in order comes the self operated holdings, while it is the lowest under tenant operated holdings.

3. The average size of holdings under owned and self operated, tenant operated and owner-cum-tenant operated cultivation within districts is indicated below :—

TABLE XXXV.

<i>District.</i>	<i>Per holding size. (Hectare).</i>			<i>District average.</i>
	<i>Self operated.</i>	<i>Tenant operated.</i>	<i>Owner-cum- Tenant operated.</i>	
(1)	(2)	(3)	(4)	(5)
Thanjavur (08) ..	1.18	1.09	2.08	1.23
Ramanathapuram (10) ..	1.32	1.03	2.58	1.34
Tirunelveli (11)	1.45	0.70	2.20	1.42

4. The average holding size for the district is the highest in Tirunelveli while it is the lowest in Thanjavur. In all the districts the owner-cum-tenant operated holding has the maximum size, while the tenant operated holding has the minimum size. The average size of the self operated holding is the maximum in Tirunelveli while it is the lowest in Thanjavur.

5. The percentage distribution of the holdings and area tenure-wise under significant size groups within districts is given in the table below :—

TABLE XXXVI.

District.	Size group.	Self operated.		Tenant operated.		Owner-cum-tenant operated.	
		Holdings.	Area.	Holdings.	Area.	Holdings.	Area.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(IN PERCENTAGE)							
Thanjavur (08).							
	1—2	82.33	81.14	13.60	14.36	4.07	4.50
	3—8	76.34	76.30	9.01	8.96	14.65	14.74
	9—12	85.45	84.81	4.45	4.80	10.10	10.39
Ramanathapuram (10)							
	1—2	97.57	97.46	1.57	1.59	0.86	0.95
	3—8	94.92	94.89	0.79	0.79	4.29	4.32
	9—12	92.12	92.65	5.57	4.98	2.31	2.37
Tirunelveli (11)							
	1—2	90.84	90.42	7.55	7.80	1.61	1.78
	3—8	95.49	95.52	1.69	1.66	2.82	2.82
	9—12	92.66	92.11	3.55	4.11	3.79	3.7

6. The percentage share of the owned and self operated area under the size group 1-2 is 81.14, 97.46 and 90.42 in Thanjavur, Ramanathapuram and Tirunelveli respectively. The share of the tenant operated area is about 14 per cent, 2 per cent and 8 per cent in Thanjavur, Ramanathapuram and Tirunelveli respectively, while in the case of owner-cum-tenant operated area, it is about 5 per cent, 1 per cent and 2 per cent in Thanjavur, Ramanathapuram and Tirunelveli respectively.

7. The percentage share of the owned and self operated area under the size group 3-8 is about 76, 95 and 96 in Thanjavur, Ramanathapuram and Tirunelveli respectively. The share of the tenant operated area is the highest (8.96 per cent) in Thanjavur and the lowest (0.79 per cent) in Ramanathapuram and it is 1.66 per cent in Tirunelveli. The owner-cum-tenant operated area is 14.74 per cent in Thanjavur as against 4.32 per cent and 2.82 per cent in Ramanathapuram and Tirunelveli respectively.

8. Ramanathapuram claims the maximum share, viz., 92.65 per cent of the owned and self operated area included in the size group 9-12 as against 84.81 per cent and 92.11 per cent in Thanjavur and Tirunelveli respectively. The share of the tenant cultivated area is 4.80 per cent in Thanjavur, 4.98 per cent in Ramanathapuram and 4.11 per cent in Tirunelveli. The owner-cum-tenant operated area is 10.39 per cent in Thanjavur as against 2.37 per cent and 3.78 per cent in Ramanathapuram and Tirunelveli respectively.

9. The broad pattern of distribution of area indicates a maximum coverage under the owned and self operated tenure in Thanjavur, Ramanathapuram and Tirunelveli. There is much concentration of owner-cum-tenant operated area under the size group 3-8 in Thanjavur and Ramanathapuram while it is under the size group 9-12 in the case of Tirunelveli.

10. The percentage distribution of area coverage under different modes of rentals paid to landlords by the tenant cultivators in the region is shown in the table below :—

TABLE XXXVII.

<i>District and size group.</i>	<i>Total area under tenant cultivation. (Hectare)</i>	<i>For fixed money.</i>	<i>For fixed produce.</i>	<i>For share of produce.</i>	<i>Others.</i>
(1)	(2)	(3)	(4)	(5)	(6)
(IN PERCENTAGE).					
Thanjavur :—(08)					
1—2	21,273	14.39	69.19	12.89	3.53
3—8	60,811	10.35	72.68	14.20	2.77
9—12	1,042	50.20	27.83	17.66	4.22
Total ..	83,126	11.89	71.22	13.91	2.98
Ramanathapuram—(10)					
1—2	2,373	22.04	13.49	52.25	12.22
3—8	5,025	30.27	15.78	44.14	9.81
9—12	857	47.03	0.35	33.37	19.25
Total ..	8,255	29.64	13.52	45.36	11.48
Tirunelveli—(11)					
1—2	9,866	6.70	72.81	19.92	0.57
3—8	9,409	34.93	38.12	25.35	1.60
9—12	2,968	51.08	19.88	28.23	0.81
Total ..	22,243	24.56	51.08	23.32	1.04

11. The payment of rental to the landlord in terms of "fixed produce" accounts for the maximum area coverage in Thanjavur and Tirunelveli while the practice of sharing the produce with the landlord is largely prevalent in Ramanathapuram. The next largest area coverage is "for fixed money" in Ramanathapuram and Tirunelveli while it is "for share of produce" in Thanjavur. Among the districts the coverage under "Others" is the highest in Ramanathapuram.

12. The payment of rental to the landlord in terms of "fixed produce" has the maximum area coverage under the size group 3-8 in Thanjavur and Ramanathapuram while it is the highest in the size group 1-2 in Tirunelveli.

13. The percentage of area coverage under "fixed money" is the highest in the size group 9-12 in all the districts. The percentage of area coverage under "share of produce" is the highest in the size group 9-12 in Thanjavur and Tirunelveli and in the size group 1-2 in Ramanathapuram.

14. Under the category "Others", the coverage of area is the highest in the size group 9-12 in Thanjavur and Ramanathapuram while it is under the size group 3-8 in Tirunelveli.

(III) *Inland Region*.—The percentage distribution of the holdings and area under the three types of tenure in the region is shown below :—

TABLE XXXVIII.

<i>Tenure status.</i>	<i>Holdings. (Number and Percentage.)</i>	<i>Area. (Hectare and Percentage).</i>	<i>Per holding size. (Hectare).</i>
(1)	(2)	(3)	(4)
Owned and self operated ..	19,27,099 (94.86)	33,81,488 (94.27)	1.75
Tenant operated	61,942 (3.05)	78,872 (2.20)	1.27
Owner-cum-tenant operated.	42,384 (2.09)	126,613 (3.53)	2.99
Total ..	20,31,425 (100)	35,86,973 (100)	1.77

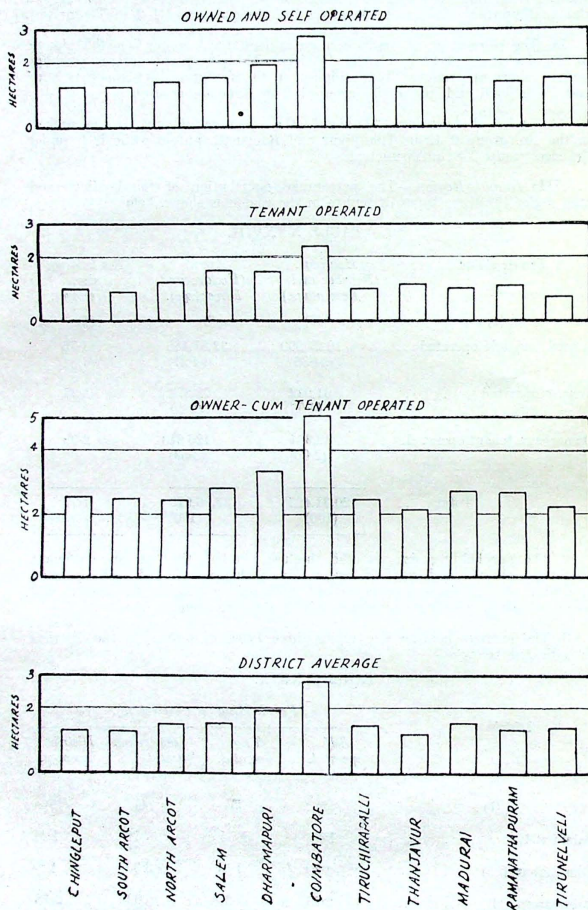
2. The per holding size is the highest under the owner-cum-tenant operated holdings and next in order comes the owned and self operated holdings. The average size of tenant operated holding is the lowest and when compared with other regions, this is the maximum.

3. The average holding size under three types of tenure in the districts is indicated below :—

TABLE XXXIX.

<i>District</i>	<i>Per holding size (Hectare).</i>			
	<i>Self operated.</i>	<i>Tenant operated.</i>	<i>Owner-cum- tenant operated.</i>	<i>District average.</i>
(1)	(2)	(3)	(4)	(5)
Salem (04)	1.51	1.55	2.76	1.51
Dharmapuri (05)	1.90	1.51	3.30	1.94
Coimbatore (06)	2.75	2.30	5.00	2.78
Tiruchirappalli (07)	1.46	0.96	2.40	1.47
Madurai (09)	1.50	0.99	2.65	1.50

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4. The average size of the operational holding is the highest in Coimbatore while it is the lowest in Tiruchirappalli. The average size of the owner-cum-tenant operated holding is the largest in Coimbatore and next in order comes Dharmapuri while it is the lowest in Tiruchirappalli. The same trend is maintained in the case of the owned and self operated holdings. The average size of the holding under the owned and self operated tenure in Salem, Madurai and Tiruchirappalli is almost the same as the district average.

5. The average size of the tenant operated holding is the highest in Coimbatore, next in order comes Salem and it is the lowest in Tiruchirappalli. The percentage distribution of the holdings and area under the significant size groups against each of the three components of tenure status within districts is given in the table below :—

TABLE XL.

District.	Size group.	Self operated.		Tenant operated.		Owner-cum-tenant operated	
		Holding.	Area.	Holding.	Area.	Holding.	Area.
		PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Salem (04) ..	1-2	98.99	98.96	0.78	0.80	0.23	0.24
	3-8	97.70	97.73	0.80	0.79	1.50	1.48
	9-12	96.45	97.78	2.08	1.29	1.47	0.93
Dharmapuri (05)	1-2	95.35	95.13	3.59	3.72	1.06	1.15
	3-8	91.58	91.56	1.98	1.96	6.44	6.48
	9-12	90.07	90.53	3.32	2.89	0.61	6.58
Coimbatore (06)	1-2	96.42	96.20	3.10	3.17	0.48	0.63
	3-8	94.64	94.59	2.63	2.51	2.83	2.90
	9-12	92.05	93.21	1.29	1.02	6.66	5.77
Tiruchirappalli (07)	1-2	93.06	92.52	5.13	5.47	1.81	2.01
	3-8	92.08	92.09	2.03	2.01	5.89	5.90
	9-12	90.92	91.13	2.54	2.60	6.54	6.27
Madurai (09) ..	1-2	95.62	94.87	3.90	4.48	0.58	0.65
	3-8	95.67	95.08	1.61	1.60	2.82	2.83
	9-12	97.16	97.18	0.62	0.58	2.22	2.24

6. More than 92.52 per cent of the owned and self operated area is covered under the size group 1-2 in all the districts. Salem has the highest percentage of area (98.96 per cent) as against 92.52 per cent in Tiruchirappalli which is the lowest for the region. The tenant operated area is the highest in Tiruchirappalli (5.47 per cent), next in order comes Madurai (4.48 per cent) while the lowest percentage (0.80 per cent) is in Salem. The owner-cum-tenant operated area is the lowest in Salem (0.24 per cent) and the highest (2.01 per cent) in Tiruchirappalli.

7. In the next size group 3-8, the percentage share of area under the first two types of tenures is comparatively lesser than the size group 1-2, while the share of area under the owner-cum-tenant operated cultivation is a little more than the share of the size group 1-2 uniformly in all the districts in the region. The self operated area is the highest in Salem (97.73 per cent) and next in order comes Madurai (95.68 per cent) while it is the lowest in Dharmapuri (91.56 per cent). Under the tenant cultivation, Coimbatore has the maximum percentage (2.51 per cent) and next in order comes Tiruchirappalli (2.01 per cent) while it is the lowest in Salem (0.79 per cent). The owner-cum-tenant operated area is the highest in Dharmapuri (6.48 per cent), the second highest is in Tiruchirappalli (5.90 per cent) while it is the lowest in Salem (1.48 per cent).

8. The percentage of owned and self cultivated area under the size group 9-12 is a little higher than the previous size group 3-8 in Salem (97.78 per cent) and Madurai (97.18 per cent) while it is a little lower in all other districts. Under the tenant cultivation, the percentage of area is slightly higher than in the previous size group 3-8 in Salem (1.29 per cent), Dharmapuri (2.89 per cent) and Tiruchirappalli (2.60 per cent) while in the remaining districts it is slightly lower than in the previous group 3-8. In the case of the owner-cum-tenant operated area, there is perceptible increase in the percentage share over the previous size group 3-8 in Dharmapuri (6.58 per cent), Coimbatore (5.77 per cent) and Tiruchirappalli (6.27 per cent) while there is slight decrease in Salem and Madurai.

9. The percentage share of the owned and self operated area in the size group 9-12 is the highest in Salem (97.78 per cent) and the next highest is in Madurai (97.18 per cent) while it is the lowest in Dharmapuri (90.53 per cent). The percentage share of area under the tenant cultivation is the highest in Dharmapuri (2.89 per cent) and the next highest is in Tiruchirappalli (2.60 per cent) while it is the lowest in Madurai (0.58 per cent). The percentage share of owner-cum-tenant operated area is the maximum with 6.58 per cent in Dharmapuri, followed by Tiruchirappalli with 6.27 per cent, Coimbatore with 5.77 per cent, Madurai with 2.24 per cent and Salem with 0.93 per cent.

10. The percentage distribution of area covered under different modes of rentals paid by the tenant cultivators in the Inland Region is given in the table below :—

TABLE XLI.

District.	Size group.	Total area under tenant cultivation HECTARE.	For fixed money. PER CENT	For fixed produce. PER CENT	For share of produce. PER CENT	Others. PER CENT
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Salem (04)	1-2	692	30.92	23.70	32.37	13.01
	3-8	3,463	43.75	14.75	33.18	8.32
	9-12	65	35.38	61.54	3.08	..
	Total	4,220	41.62	16.94	32.68	8.96
Dharmapuri (05)	1-2	1,765	8.73	13.88	75.52	1.87
	3-8	8,088	18.25	10.74	67.26	3.75
	9-12	140	47.86	15.00	37.14	..
	Total	9,993	16.98	11.36	68.30	3.36
Coimbatore (06)	1-2	2,013	33.04	45.65	14.46	6.85
	3-8	20,688	62.62	18.90	11.12	7.46
	9-12	711	73.84	2.05	8.86	14.35
	Total	23,412	60.33	20.72	11.34	7.61

TABLE XII—cont.

District.	Size group.	Total area under tenant cultivation.	For fixed money.	For fixed produce.	For share of produce.	Others.
(1)	(2)	(3)	PER CENT	PER CENT	PER CENT	PER CENT
Tiruchirappalli (07)..	1-2	8,908	30.99	48.13	17.68	3.20
	3-8	16,626	42.70	29.09	23.58	4.63
	9-12	834	49.28	19.90	28.30	2.52
Total ..		26,368	38.95	35.23	21.74	4.08
Madurai (09) ..	1-2	5,424	23.84	45.19	28.26	2.71
	3-8	9,255	27.47	41.90	28.42	2.21
	9-12	200	39.50	60.50	..	..
Total ..		14,879	26.30	43.35	27.98	2.37

11. The percentage of area coverage under the payment of rentals in terms of "fixed money", is the maximum in Salem, Coimbatore and Tiruchirappalli while it is the maximum under "fixed produce" in Madurai and under "share of produce", in Dharmapuri.

12. The second largest area coverage is under rental in terms of "fixed produce" in Coimbatore and Tiruchirappalli, rental in terms of "fixed money" in Madurai and rental in terms of "share of produce" in Tiruchirappalli.

13. It is seen that the largest proportion of tenant operated area is accommodated in the size group 3-8 in all the districts of the region. In all the districts where the magnitude of the proportion is considerable under size group 3-8 that particular mode of rental payment has the significant coverage in the district. Accordingly the districts are grouped based on the largely prevalent mode of rental payment as indicated below :—

- | | |
|--|--|
| (1) Rental in terms of fixed money. | Salem, Coimbatore and Tiruchirappalli. |
| (2) Rental in terms of fixed produce. | Madurai. |
| (3) Rental in terms of share of produce. | Dharmapuri. |

(v) Land uses

The percentages of sown and net cultivated area to the total operated area in each of the regions are indicated below :—

TABLE XLII.

Serial number.	Region.	Percentage of sown area.	Percentage of net cultivated area.
(1)	(2)	(3)	(4)
I. Coastal Northern	81.55	92.13
II. Coastal Southern	74.01	88.62
III. Inland	77.21	93.33

2. The above table shows that the percentage of net cultivated area (total of sown area and current fallows) is the highest in the Inland Region and the lowest in the Coastal Southern Region.

3. Coastal Northern Region has a maximum percentage of sown area. The remaining items of utilisation are shown in the table below with area expressed as percentages :—

TABLE XLIII.

Utilisation.	Coastal Northern Region.	Coastal Southern Region.	Inland Region.
	PER CENT.	PER CENT.	PER CENT.
(1)	(2)	(3)	(4)
1. Current fallows	10.58	14.61	16.12
2. Uncultivated excluding fallow.	1.44	1.75	1.45
3. Fallow other than current fallows.	2.32	5.41	1.76
4. Culturable waste	2.17	2.82	1.31
5. Land not available for cultivation.	1.94	1.40	2.15

4. The percentage of area under current fallows is the highest in Inland Region while it is the lowest in Coastal Northern Region.

5. The proportion of area under uncultivated land excluding fallows is almost same in Coastal Northern and Inland Regions and a little higher in Coastal Southern Region.

6. The proportion of area under fallows other than current fallows is the highest in Coastal Southern Region (5.41 per cent) and the lowest in Inland Region (1.76 per cent).

7. The percentage share of culturable waste is the highest in Coastal Southern Region while it is the lowest in Inland Region.

8. The land put to non-agricultural uses out of the operated area is the maximum with 2.15 per cent in Inland Region and next in order come Coastal Northern Region with 1.94 per cent and Coastal Southern Region with 1.40 per cent.

9. A further analysis of the nature of distribution of land utilisation under different size classes within districts is attempted here for each region separately.

(I) *Coastal Northern Region.*—The proportion of the sown area is about 85 per cent in the first two size classes 1-2 and about 82 per cent in the size classes 3-6. The proportion then decreases to 80 per cent in the case of the size class 7. This decreasing trend continues upto the size class 12 where the proportion is 46 per cent.

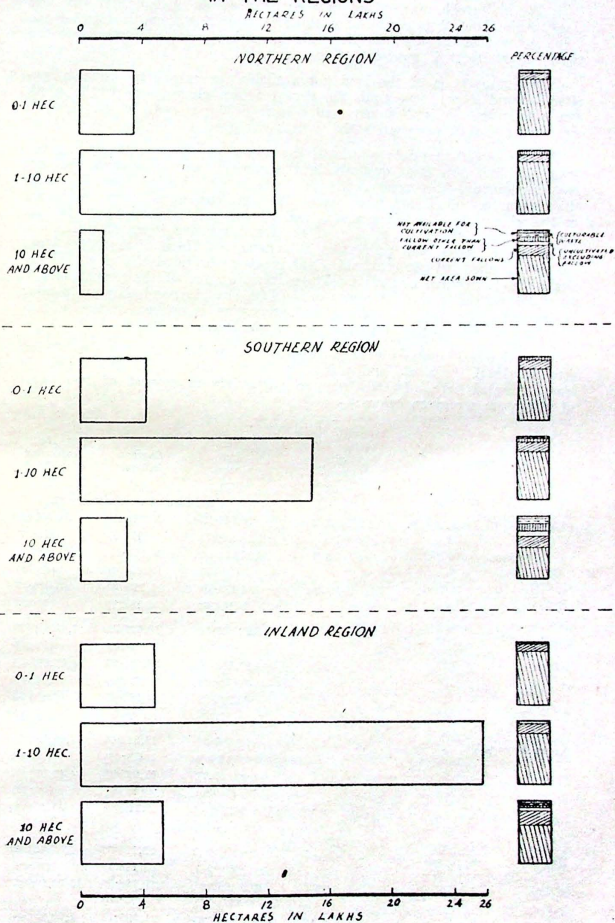
2. Similarly, in the case of the net cultivated area, the proportion is constant around 95 per cent in the first two size classes, 92 per cent under size classes 3 to 6 and 90.83 per cent in the seventh size class. Subsequently it goes on declining till the size class 12 where the proportion is 65.85 per cent.

3. The percentage proportion of the current fallows is about 9.5 per cent in the first two size classes, about 10 per cent between size classes 3 and 7 and from the size class 8 (with 13.03 per cent) onwards, the proportion assumes an upward trend, rising to 20.25 per cent in the size class 11. There is a slight decrease in the size class 12.

4. The percentage proportion of the uncultivated land excluding fallow land, is about 1.25 per cent between size classes 1 and 7. The proportion increases to 2.62 per cent in the size class 8 and this increasing trend continues upto the size class 12 where the proportion reaches 8.15 per cent.

5. The percentage proportion of the fallow land other than current fallow is about 1 per cent in the first two size classes and about 2 per cent in the next three size classes. In the sixth size class, the proportion increases

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to 2.54 per cent. This up-turn continues upto the size class 11, where it has risen to 8.74 per cent. The proportion decreases to 8.57 per cent in the size class 12.

6. The culturable waste land is about 1 per cent in the first two size classes and about 2 per cent upto the size class 6. Then, it increases to 2.70 per cent in the size class 7. This increasing trend continues upto the twelfth class where it reaches 8.35 per cent.

7. The proportion of the land not available for cultivation remains constant around 2 per cent upto the first ten size classes, except the ninth size class where it is 2.90 per cent. It is 6.36 per cent in the eleventh size class and 9.08 per cent in the twelfth size class.

8. The overall trend is on the descent in Chingleput and North Arcot from the first size class onwards in the case of sown area and also net cultivated area. The trend in South Arcot slightly varies from the other districts in respect of net sown area. The proportion of sown and net cultivated area is about 86 per cent and 94 per cent respectively under the first two size classes. In respect of the remaining five items of utilisation, under these classes, the proportion is constant. These proportions are reduced to about 84 per cent and 92 per cent in the third size class and are similar in the fourth size class. There is an upturn of the proportions to about 86 per cent and 93 per cent in the fifth size class and they are similar in the sixth size class. A fall in the proportion is noticed in the seventh size class which continues upto the twelfth size class.

9. A detailed analysis of area distribution under different size classes for individual items of land utilisation within districts of the region is also attempted here. The districtwise particulars in respect of two items of utilisation are given below :—

TABLE XLIV.

District.	Size group.	Net area sown.	Current fallows.	Net cultivated area (3+4).
(1)	(2)	(3)	(4)	(5)
(HECTARE AND PERCENTAGE).				
Chingleput (01)	1-2	74,611.13 (22.87)	11,480.86 (17.99)	86,091.99 (22.07)
	3-7	2,17,174.94 (66.57)	40,673.47 (63.74)	2,57,848.41 (66.11)
	8-12	34,433.80 (10.56)	11,655.57 (18.27)	46,089.37 (11.82)
South Arcot (02)	1-2	1,28,027.94 (21.74)	10,622.79 (19.98)	1,38,650.73 (21.60)
	3-7	4,17,589.80 (70.91)	38,291.76 (72.01)	4,55,881.56 (71.00)
	8-12	43,248.28 (7.34)	4,262.65 (8.01)	47,510.93 (7.40)
North Arcot (03)	1-2	66,547.54 (18.86)	11,613.42 (17.03)	1,08,160.96 (18.64)
	3-7	3,89,152.27 (75.99)	51,223.33 (75.09)	4,40,375.60 (75.89)
	8-12	26,395.77 (5.15)	5,376.89 (7.88)	31,772.66 (5.47)
Region	1-2	2,99,186.61 (20.96)	33,717.07 (18.21)	3,32,903.68 (20.65)
	3-7	10,23,917.01 (71.75)	1,30,188.56 (70.30)	11,54,105.57 (71.58)
	8-12	1,04,077.85 (7.29)	21,295.11 (11.49)	1,25,372.96 (7.77)

10. It is seen that the coverage of net area sown in the size group 3-7 is very significant in all the districts. North Arcot claims the highest percentage share of 75.99 among the districts. South Arcot has the second largest share of 70.91 per cent while it is 66.57 per cent in Chingleput. The second largest area coverage is located in the size group 1-2. The percentage share of Chingleput is the highest (22.87) and next in order come South Arcot (21.74) and North Arcot (18.86) in the size group 1-2. The proportion of sown area covered in the size group 8-12 is the lowest in North Arcot (5.15 per cent) and the highest in Chingleput (10.56 per cent).

11. About two-thirds of current fallow area is accommodated in the size group 3-7. This area is the highest in North Arcot with 75.09 per cent and next in order comes South Arcot with 72.01 per cent while it is the lowest in Chingleput with 63.74 per cent. About 18 per cent of the current fallow area is found in the size group 1-2 in all the districts. While this figure is as large as 18.27 per cent under the size group 8-12 in Chingleput, it is only 8.01 per cent and 7.88 per cent in South Arcot and North Arcot respectively. The net cultivated area represents the total of net sown area (a big component) and current fallows (a small component). The percentage proportions represented by each of the three size groups under this utilisation are almost similar to those under sown area in all the districts.

12. The distribution of area under the significant size groups in respect of the remaining four items of land utilisation is indicated below :—

TABLE XLV.

<i>District.</i>	<i>Size group.</i>	<i>Uncultivated excluding fallow.</i>	<i>Fallow other than current fallow.</i>	<i>Culturable waste land.</i>	<i>Not available for cultivation.</i>
(1)	(2)	(3)	(4)	(5)	(6)
		(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)
Chingleput (01) ..	1— 2	1,639.36 (12.85)	1,249.34 (8.76)	1,139.28 (9.21)	1,028.50 (14.32)
..	3— 7	7,280.99 (57.06)	8,989.63 (63.04)	7,847.41 (63.46)	4,403.09 (61.32)
..	8—12	3,838.96 (30.09)	4,020.58 (28.20)	3,379.50 (27.33)	1,748.90 (24.36)
South Arcot (02) ..	1— 2	1,924.16 (22.21)	1,639.79 (13.11)	2,290.07 (13.61)	3,070.97 (21.88)
..	3— 7	6,000.85 (69.28)	9,201.91 (73.55)	12,462.95 (74.07)	9,424.04 (67.21)
..	8—12	737.29 (8.51)	1,668.69 (13.34)	2,073.89 (12.32)	1,532.31 (10.91)
North Arcot (03) ..	1— 2	598.60 (16.46)	1,370.69 (9.90)	1,054.24 (12.02)	2,199.60 (17.33)
..	3— 7	2,480.07 (66.82)	10,849.31 (78.39)	6,992.34 (79.76)	9,527.39 (75.06)
..	8—12	633.01 (17.05)	1,620.22 (11.71)	720.29 (8.22)	966.70 (7.61)

13. It is seen that the proportion of the uncultivated area excluding fallow land is the highest under the size group 3-7 in all the districts. The next highest is under the size group 8-12 in all the districts except South Arcot.

14. The proportion of the fallows other than current fallows is the highest under the size group 3-7 and the second highest under size group 8-12 in all the districts.

15. The percentage of the area under culturable waste is the largest under the size group 3-7 in all the districts. The next largest are under the size group 8-12 in Chingleput and under the size group 1-2 in South Arcot and North Arcot.

16. The percentage of area not available for cultivation is the highest under the size group 3-7 in all the districts while the next highest percentage is found under the size group 1-2 in South Arcot and North Arcot.

17. In all the districts, the size group 3-7 has the highest percentage of area under all four items of utilisation. The second largest percentage share of area under all the above four utilisations is found in the size group 8-12 in Chingleput.

(II) *Coastal Southern Region.*—In the Coastal Southern Region, the proportion of the net sown area is on the descent from the first to the twelfth size class. The percentage is about 76 in the first four size classes and about 70 in the next three size classes after which it decreases to 29.38 in the twelfth size class.

2. Similarly, in the case of the net cultivated area, the proportion is about 90 per cent in the first four size classes. The proportion then takes a diminishing trend till it is reduced to 49.67 per cent in the twelfth size class.

3. With regard to the current fallows, the proportion is constant around 14 per cent in the first seven size classes and then shows an increasing trend from the eighth to the tenth size class. After a slight decrease in the eleventh size class, there is again a small increase of 0.18 per cent in the twelfth size class.

4. The area under the uncultivated land excluding fallows is 1.3 per cent in the first size class. It remains constant around 1 per cent upto the fifth size class and in the sixth size class it registers an increase which is maintained upto the tenth size class. The proportion shows a decrease in the eleventh size class with 7.1 per cent and then it doubles itself in the twelfth size class with 15 per cent.

5. The percentage figure for the fallow land other than current fallows gradually increases from 1.9 in the first size class to 14.1 in the eleventh size class and then decreases to 12.7 in the twelfth size class. Regarding the category culturable waste, the proportion of 1.3 per cent in the first size class gradually increases to 13.7 per cent in the twelfth size class.

6. The proportion of the area not available for cultivation is constant around 1 per cent from the first to the eighth size class. In the ninth size class it becomes 3.18 per cent. The increasing trend is maintained till the twelfth size class where it is 9.02 per cent.

7. The particulars of the net sown area, current fallows and net cultivated area distributed under significant size groups, districtwise, in the region are given in the table below :—

TABLE XLVI.

<i>District.</i>	<i>Size group.</i>	<i>Net sown area.</i>	<i>Current fallows.</i>	<i>Net cultivated.</i>
(1)	(2)	(3)	(4)	(5)
		(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)
Thanjavur (08)	1— 2	1,25,788-27	5,937-43	1,31,725-70
		(21-04)	(22-62)	(21-11)
	3— 7	4,24,139-42	16,697-09	4,40,836-51
		(70-94)	(63-62)	(70-63)
	8—12	47,963-95	3,610-21	51,574-16
		(8-02)	(13-76)	(8-26)
Ramanathapuram (10) ..	1— 2	1,21,004-26	28,253-45	1,49,257-71
		(20-74)	(17-57)	(20-06)
	3— 7	4,11,109-90	1,12,974-52	5,24,084-42
		(70-47)	(70-26)	(70-42)
	8—12	51,255-08	19,568-60	70,823-68
		(8-79)	(12-17)	(9-52)
Tirunelveli (11)	1— 2	96,036-87	20,959-35	1,16,996-22
		(21-29)	(15-50)	(19-96)
	3— 7	2,84,338-42	85,015-04	3,69,353-46
		(63-05)	(62-85)	(63-00)
	8—12	70,628-55	29,285-72	99,914-27
		(15-66)	(21-65)	(17-04)

8. The largest proportion of the sown area, current fallows and net cultivated area is accommodated under the size group 3-7 and the lowest proportion in the size group 8-12 in all the districts except in the case of current fallows in Tirunelveli, where the lowest proportion is located in the size group 1-2. It is seen that the proportions between the three size groups are almost equal in Thanjavur and Ramanathapuram.

9. The percentage share of the area under the significant size groups districtwise in respect of the remaining four items of utilisation is given in the table below :—

TABLE XLVII.

<i>District.</i>	<i>Size group.</i>	<i>Uncultivated excluding fallow</i>	<i>Fallow other than current fallow.</i>	<i>Culturable waste land.</i>	<i>Not available for cultivation.</i>
(1)	(2)	(3) (HECTARE AND PER CENT.)	(4) (HECTARE AND PER CENT.)	(5) (HECTARE AND PER CENT.)	(6) (HECTARE AND PER CENT.)
Thanjavur (08) ..	1— 2	937-53	2,310-77	3,062-89	2,844-28
		(21-48)	(16-43)	(15-78)	(20-03)
	3— 7	2,530-25	9,212-24	12,400-30	9,023-00
		(57-97)	(65-50)	(63-87)	(63-53)
	8—12	897-03	2,542-31	3,951-20	2,335-02
		(20-55)	(18-07)	(20-35)	(16-44)
Ramanathapuram (10)	1— 2	835-19	1,762-54	640-84	543-04
		(15-74)	(7-49)	(6-30)	(13-82)
	3— 7	3,306-38	17,016-39	6,867-20	2,135-67
		(62-30)	(72-35)	(67-52)	(54-33)
	8—12	1,165-34	4,742-38	2,662-97	1,251-87
		(21-96)	(20-16)	(26-18)	(31-85)
Tirunelveli (11) ..	1— 2	3,049-87	5,996-13	2,400-28	1,327-04
		(10-55)	(7-33)	(7-37)	(10-48)
	3— 7	11,929-98	51,961-32	17,993-51	5,465-47
		(41-26)	(63-55)	(55-27)	(43-15)
	8—12	13,930-80	23,813-65	12,162-01	5,872-77
		(48-19)	(29-12)	(37-36)	(46-37)

10. The percentage share of the items "fallow other than current fallow" and "culturable waste" is the maximum in the size group 3-7 and the next highest in the size group 8-12 in all the districts. In the case of "uncultivated land excluding fallows" and land "not available for cultivation", Thanjavur and Ramanathapuram account for the highest share in the size group 3-7 and Tirunelveli in the size group 1-2 while the second largest is in the size group 1-2 in Thanjavur, in the size group 8-12 in Ramanathapuram and in the size group 3-7 in Tirunelveli.

(III) *Inland Region*.—The proportion of the net sown area in the Inland Region is on the descent from the first to the eleventh size class and in the twelfth size class a small rise can be seen.

2. The proportion of the net cultivated area decreases from the first to the twelfth size class.

3. The share of area under the category "current fallows" is about 11 per cent in the first two size classes and about 15 per cent from the third to the sixth size class. The gradual increase stops in the eleventh size class and in the twelfth size class it decreases much with 10.11 per cent.

4. The proportion of the uncultivated land excluding fallows goes on increasing from the first to the eleventh size class and in the twelfth size class it decreases with 2.74 per cent.

5. The proportion of the area under fallows other than current fallows is about 1 per cent in the first four size classes. It increases gradually upto the tenth size class and in the eleventh and twelfth size class a decrease is noticed.

6. The proportion of the culturable waste land is about 1 per cent in the first seven size classes. It gradually increases till the eleventh size class and in the twelfth size class it shows a decrease of 5 per cent.

7. The proportion of the area not available for cultivation is almost constant around 2 per cent in the first eight size classes. The gradual increase from the ninth size class onwards reaches its peak in the twelfth size class with 19.8 per cent.

8. The percentage proportion of the area under significant size groups districtwise in respect of net sown area, current fallows and net cultivated area is given in the table below :—

TABLE XLVIII.

<i>District.</i>	<i>Size group.</i>	<i>Net sown area.</i>	<i>Current fallows.</i>	<i>Net cultivated.</i>
(1)	(2)	(3)	(4)	(5)
		(HECTARE AND PER CENT).	(HECTARE AND PER CENT).	(HECTARE AND PER CENT).
Salem (04)	1—2	67,202.04	10,376.95	77,578.99
		(16.97)	(14.81)	(16.64)
	3—7	311,737.58	55,977.89	367,715.47
		(78.70)	(79.90)	(78.88)
	8—12	17,150.05	3,706.81	20,856.86
		(4.33)	(5.29)	(4.48)
Dharmapuri (05)	1—2	42,486.93	3,876.51	46,363.44
		(11.05)	(9.32)	(10.88)

TABLE XLVIII—cont.

District.	Size group.	Net sown area.	Current fallows.	Net cultivated.
(1)	(2)	(3)	(4)	(5)
		(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)
Dharmapuri (05)—cont. . .	3— 7	308,904.97 (80.32)	32,745.63 (78.71)	341,650.60 (80.16)
	8—12	32,215.09 (8.63)	4,979.42 (11.97)	38,194.51 (8.96)
Coimbatore (06) . . .	1— 2	51,753.85 (7.22)	8,768.00 (4.00)	60,521.85 (6.46)
	3— 7	519,297.33 (72.42)	146,901.10 (66.99)	666,198.43 (71.15)
	8—12	145,991.38 (20.36)	63,612.77 (29.01)	209,604.15 (22.39)
Tiruchirappalli (07) . . .	1— 2	137,732.42 (19.20)	16,489.78 (12.58)	154,222.20 (18.18)
	3— 7	503,492.84 (70.18)	87,007.31 (66.39)	590,800.15 (69.59)
	8—12	76,208.32 (10.62)	27,559.35 (21.03)	103,767.67 (12.23)
Madurai (09) . . .	1— 2	104,669.67 (18.88)	15,569.42 (13.39)	120,239.09 (17.93)
	3— 7	382,689.01 (69.02)	79,967.26 (68.75)	462,656.27 (68.97)
	8—12	67,088.35 (12.10)	20,773.17 (17.86)	87,861.52 (13.10)
Region . . .	1— 2	403,844.91 (14.58)	55,080.66 (9.52)	458,925.57 (13.71)
	3— 7	2,026,121.73 (73.16)	402,599.19 (69.62)	2,428,720.92 (72.54)
	8—12	339,653.19 (12.26)	120,631.53 (20.86)	460,284.71 (13.75)

9. The percentage share of area relating to all the three types of utilisation under the size group 3-7 is uniformly maximum in all the districts. In respect of the net area sown and the net cultivated area the second largest proportion is found under the size group 1-2 in all the districts except Coimbatore, where it is under the size group 8-12. The percentage proportion of the current fallow is the second largest under the size group 8-12 except in Salem, where it is in the size group 1-2.

10. Similar distribution of proportion of area for the remaining four items of utilisation is given in the table below :—

TABLE XLIX.

<i>District.</i>	<i>Size group.</i>	<i>Uncultivated excluding fallow</i>	<i>Fallow other than current fallow</i>	<i>Culturable waste land</i>	<i>Not available for cultivation.</i>
(1)	(2)	(3)	(4)	(5)	(6)
		(HECTARE AND PER CENT).	(HECTARE AND PER CENT).	(HECTARE AND PER CENT).	(HECTARE AND PER CENT).
Salem (04) ..	1—2	481.80 (10.87)	395.36 (9.63)	215.41 (8.49)	2,309.52 (16.23)
	3—7	3,195.61 (72.08)	3,239.49 (78.91)	1,820.31 (71.73)	10,792.50 (75.84)
	8—12	755.66 (17.05)	470.70 (11.46)	501.92 (19.78)	1,128.94 (7.93)
Dharmapuri (05) ..	1—2	160.31 (3.73)	216.86 (6.60)	123.32 (5.65)	978.31 (10.83)
	3—7	2,689.29 (62.60)	2,395.07 (72.92)	1,512.25 (69.26)	7,051.13 (78.03)
	8—12	1,446.63 (33.67)	672.59 (20.48)	547.73 (25.09)	1,007.07 (11.14)
Coimbatore (06) ..	1—2	161.35 (1.26)	308.87 (2.74)	1,101.38 (2.74)	1,605.00 (5.97)
	3—7	5,850.13 (45.56)	7,300.33 (64.70)	1,929.13 (52.18)	14,567.81 (54.14)
	8—12	6,827.47 (53.18)	3,674.26 (32.56)	1,666.37 (45.08)	10,732.78 (39.89)
Tiruchirappalli (07).	1—2	932.91 (3.67)	2,840.42 (8.59)	2,908.05 (8.63)	2,532.52 (13.72)
	3—7	14,850.56 (58.37)	22,398.49 (67.77)	23,240.83 (68.96)	12,286.16 (66.56)
	8—12	9,656.68 (37.96)	7,813.19 (23.64)	7,552.65 (22.41)	3,641.39 (19.72)
Madurai (09) ..	1—2	617.06 (12.48)	749.87 (6.60)	419.77 (8.92)	1,348.20 (15.77)
	3—7	2,495.64 (50.47)	6,913.66 (60.89)	2,884.31 (61.30)	5,260.51 (61.54)
	8—12	1,831.74 (37.05)	3,691.44 (32.51)	1,401.59 (29.78)	1,939.09 (22.59)

11. Under uncultivated land excluding fallows, there is maximum concentration of area in the size group 3-7 in all the districts except Coimbatore where it is maximum in the size group 8-12. The second largest proportion of area is accommodated in the size group 8-12 in all the districts except Coimbatore, where it is accommodated in the size group 3-7.

12. The area proportion under the land utilisation classifications indicated in columns 4, 5 and 6 in the table is uniformly the largest under the size group 3-7 in all the districts and the second largest in the size group 8-12 in all the districts except Salem, where the second largest proportion of area under land not available for cultivation is accommodated under the size group 1-2.

13. The proportion of area under the size group 8-12 in respect of all the four types of land utilisation is comparatively the highest in Coimbatore.

(vi) *Sourcewise Irrigation.*

The pattern of irrigation with reference to sown area regionwise (with the percentage of irrigated area) is shown below :—

TABLE L.

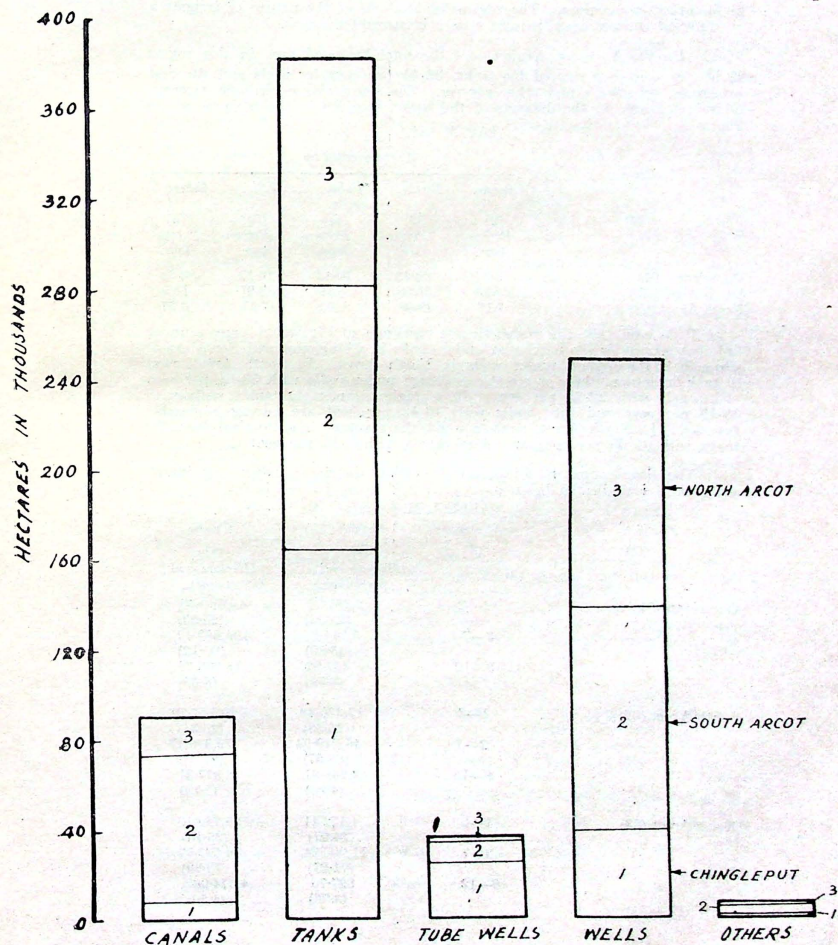
<i>Region.</i>					<i>Sown area</i>	<i>Irrigated area</i>
(1)					(2)	(3)
					(Hectare).	(Hectare and Percentage).
I. Coastal Northern	..	..	..	..	1,427,181.47	767,068.39 (53.75)
II. Coastal Southern	..	..	..	..	1,632,264.72	840,932.12 (51.52)
III. Inland	..	..	..	..	2,769,619.83	819,772.55 (29.60)

The proportions of sown area irrigated is the largest in the Coastal Northern Region while it is the lowest in the Inland Region, although the coverage of area sown is the largest in this region. The sourcewise share of the irrigated area in each region expressed as percentages is noted below :—

TABLE LI.

<i>Irrigation source.</i>					<i>Area irrigated.</i>		
					<i>Coastal Northern Region</i>	<i>Coastal Southern Region</i>	<i>Inland Region</i>
(1)					(2)	(3)	(4)
					Percentage.	Percentage.	Percentage.
Canals	..	..	..	..	11.81	55.67	31.37
Tanks	..	..	..	..	49.95	31.50	17.57
Tube wells	..	..	..	..	4.95	0.39	0.71
Wells	..	..	..	..	32.44	12.10	48.97
Others	..	..	..	..	0.85	0.34	1.38
Total	..	..	..	..	100.00	100.00	100.00

AREA IRRIGATED SOURCEWISE IN COASTAL NORTHERN REGION AND ITS COMPONENT DISTRICTS



2. The share of canals is the largest in the Coastal Southern Region, tanks in the Coastal Northern Region and wells in the Inland Region. The second largest percentage coverage relates to wells in the Coastal Northern Region, tanks in the Coastal Southern Region and canals in the Inland Region. The share of tube wells and others together is less than 1 per cent in the Coastal Southern Region while it is 5.80 per cent and 2.09 per cent in the other two regions. The regionwise analysis of the nature of irrigation by different sources over the size classes is attempted below.

(I) *Coastal Northern Region*.—Of the total irrigated area in this region 49.95 per cent is irrigated by tanks, 32.44 per cent by wells and the rest by canals, tube wells and other sources. The sourcewise percentage coverage of irrigated area in the districts of the region is given in the table below :—

TABLE LII.

District.	Area irrigated by				
	Canals.	Tanks.	Tube wells.	Wells.	Others.
	(2) Percentage.	(3) Percentage.	(4) Percentage.	(5) Percentage.	(6) Percentage.
Chingleput (01)	3.37	69.43	10.42	16.19	0.59
South Arcot (02)	22.23	39.68	3.19	33.61	1.29
North Arcot (03)	7.18	43.08	1.60	47.57	0.57

2. It is seen that the proportionate coverage of irrigated area under different sources is the maximum under tanks in Chingleput and South Arcot while it is the highest under wells in North Arcot. In South Arcot, next to tank irrigation, there is sizeable coverage under wells with 33.61 per cent and canals with 22.23 per cent. In Chingleput, next to tanks, wells with 16.19 per cent and tube wells with 10.42 per cent are having a sizeable coverage. In North Arcot, next to wells, the coverage is quite sizeable under tanks with 43.08 per cent and then canals with 7.18 per cent.

3. The distribution of this coverage within districts under significant size groups is indicated below :—

TABLE LIII.

District.	Size group.	Canals	Tanks
(1)	(2)	(3)	(4)
		(Hectare and percentage).	(Hectare and percentage).
Chingleput(01)	1—2	2,287.57 (28.52)	41,699.56 (25.23)
	3—7	5,284.27 (65.89)	109,282.49 (66.12)
	8—12	447.92 (5.59)	14,305.72 (8.65)
South Arcot (02)	1—2	17,370.48 (26.38)	29,787.70 (25.34)
	3—7	45,210.94 (68.67)	79,370.17 (67.53)
	8—12	3,258.91 (4.95)	8,377.31 (7.13)
North Arcot (03)	1—2	4,172.41 (24.97)	25,226.10 (25.15)
	3—7	11,906.34 (71.27)	70,501.77 (70.29)
	8—12	627.76 (3.76)	4,574.98 (4.56)

TABLE LIII—cont.

<i>District.</i>	<i>Size group.</i>	<i>Tube wells</i>	<i>Wells</i>	<i>Others</i>
(1)	(2)	(5)	(6)	(7)
		(Hectare and percentage).	(Hectare and percentage).	(Hectare and percentage).
Chingleput (01)	1—2	4,450.17 (17.94)	8,370.03 (21.71)	403.03 (28.71)
	3—7	17,541.02 (70.71)	27,097.17 (70.30)	818.64 (58.31)
	8—12	2,814.68 (11.35)	3,080.00 (7.99)	182.17 (12.98)
South Arcot (02)	1—2	1,958.46 (20.76)	22,172.96 (22.27)	1,001.53 (26.28)
	3—7	6,753.84 (71.60)	71,049.72 (71.37)	2,583.26 (67.79)
	8—12	720.97 (7.64)	6,334.01 (6.36)	226.01 (5.93)
North Arcot (03)	1—2	539.06 (14.49)	20,886.25 (18.86)	329.45 (24.70)
	3—7	2,945.58 (79.19)	84,396.98 (76.19)	956.13 (71.68)
	8—12	235.06 (6.32)	5,480.58 (4.95)	48.34 (3.62)

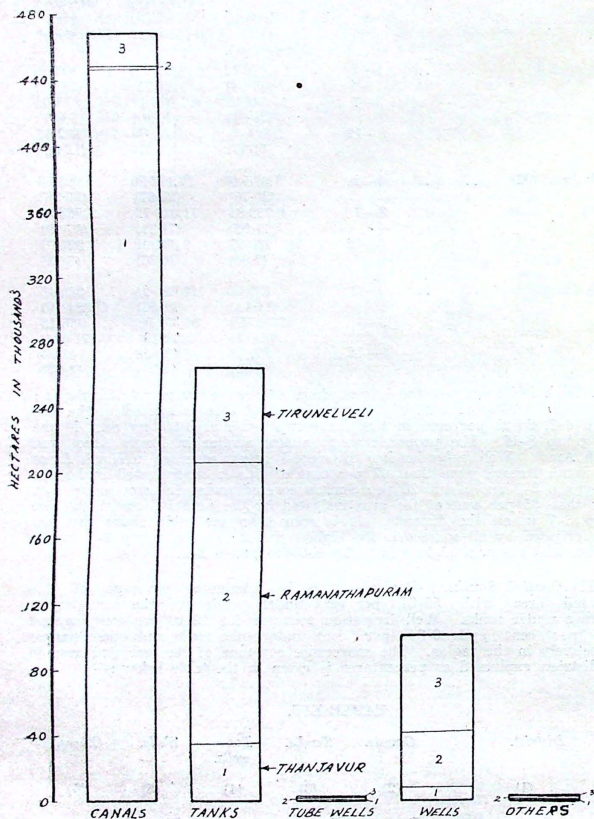
4. Tank irrigation has the largest share of area coverage in Chingleput; as much as 66.12 per cent of the tank irrigated area is located in the size group 3-7, 25.23 per cent in the size group 1-2 and 8.65 per cent in the size group 8-12. The proportions are almost similar in North Arcot and South Arcot. Well irrigation has the second largest coverage in North Arcot and South Arcot; more than 67 per cent of this is concentrated under the size group 3-7 and about 20 per cent is covered under the size group 1-2. More than 65 per cent of the area irrigated by the canals is under the size group 3-7 in all the districts. It is seen from the table above that the area irrigated by all sources is the highest under the size group 3-7 in the districts and the next highest is under the size group 1-2.

(II) *Coastal Southern Region.*—There is maximum coverage of the irrigated area with 55.67 per cent under canals and the next largest coverage under tanks. Well irrigation accounts for 12.10 per cent, against 0.39 per cent and 0.34 per cent under tube wells and other sources respectively in the region. The sourcewise coverage of the irrigated area in the districts expressed as percentages is given in the table below :—

TABLE LIV.

<i>District.</i>	<i>Canals.</i>	<i>Tanks.</i>	<i>Tube wells.</i>	<i>Wells.</i>	<i>Others.</i>
(1)	(2)	(3)	(4)	(5)	(6)
	Percentage.	Percentage.	Percentage.	Percentage.	Percentage.
Thanjavur (08)	90.56	7.27	0.16	1.74	0.27
Ramanathapuram (10)	0.72	82.35	0.40	16.17	0.36
Tirunelveli (11)	14.51	41.21	1.19	42.49	0.60

AREA IRRIGATED SOURCEWISE IN COASTAL SOUTHERN REGION AND ITS COMPONENT DISTRICTS



2. The largest coverage is found under canals in Thanjavur while tanks and wells account for the next largest in Ramanathapuram and Tirunelveli respectively. Tube wells and others serve a very much smaller portion of the irrigated area in these districts.

3. The distribution of the irrigated area under the significant size groups in the districts is indicated below:—

TABLE LV.

<i>District.</i> (1)	<i>Size group.</i> (2)	<i>Canals</i> (3) (Hectare and Percentage).	<i>Tanks</i> (4) (Hectare and Percentage).
Thanjavur (08)	1—2	94,280.03 (21.12)	8,801.63 (24.55)
	3—7	321,568.58 (72.05)	24,238.82 (67.62)
	8—12	30,492.73 (6.83)	2,807.99 (7.83)
Ramanathapuram (10)	1—2	535.95 (35.90)	54,054.04 (31.56)
	3—7	890.60 (59.66)	108,299.43 (63.23)
	8—12	66.33 (4.44)	8,918.35 (5.21)
Tirunelveli (11)	1—2	12,529.61 (61.63)	28,970.61 (50.18)
	3—7	7,157.45 (35.21)	24,830.89 (43.02)
	8—12	643.36 (3.16)	3,926.93 (6.80)

TABLE LV—cont.

<i>District.</i> (1)	<i>Size group.</i> (2)	<i>Tube wells</i> (5) (Hectare and Percentage).	<i>Wells</i> (6) (Hectare and Percentage).	<i>Others</i> (7) (Hectare and Percentage).
Thanjavur (08)	1—2	107.93 (13.53)	2,396.87 (28.00)	301.92 (23.11)
	3—7	576.17 (72.23)	5,651.06 (66.01)	870.34 (66.61)
	8—12	113.55 (14.24)	513.09 (5.99)	134.33 (10.28)
Ramanathapuram (10)	1—2	118.84 (14.23)	6,266.33 (18.63)	165.06 (21.98)
	3—7	619.61 (74.17)	23,499.13 (69.86)	455.44 (60.64)
	8—12	96.91 (11.60)	3,873.40 (11.51)	130.57 (17.38)
Tirunelveli (11)	1—2	309.12 (18.52)	14,131.16 (23.74)	211.06 (25.26)
	3—7	978.60 (58.61)	38,070.28 (63.96)	420.17 (50.29)
	8—12	361.81 (22.87)	7,321.81 (12.30)	204.24 (24.45)

4. It is seen that 72.05 per cent being the largest proportion of the canal irrigated area in Thanjavur is concentrated under the size group 3-7. Similarly, 63.23 per cent of the tank irrigated area in Ramanathapuram and 63.96 per cent of the well irrigated area in Tirunelveli are concentrated under size group 3-7. Tank irrigation with the second largest coverage of 50.18 per cent in Tirunelveli, is concentrated under the size group 1-2, while it is concentrated in the size group 3-7 in Thanjavur.

(III) *Inland Region*.—Well irrigation in the region has a predominant coverage with 48.97 per cent, followed by canal irrigation with 31.37 per cent and tank irrigation with 17.57 per cent. The coverage of 2.09 per cent of the area by tube wells and others is not very significant. The sourcewise percentage coverage of area irrigated within districts in the region is given in the table below :—

TABLE LVI.

District. (1)	Canals. (2) Percentage.	Tanks. (3) Percentage.	Tube wells. (4) Percentage.	Wells. (5) Percentage.	Others. (6) Percentage.
Salem (04)	16.15	5.83	0.39	75.13	2.50
Dharmapuri (05)	11.37	24.21	1.07	62.20	1.15
Coimbatore (06)	41.87	1.87	0.82	54.26	1.18
Tiruchirappalli (07)	36.45	30.27	0.63	31.38	1.27
Madurai (09)	25.98	28.65	0.71	43.43	1.23

2. Well irrigation is the largest in all the districts except Tiruchirappalli where canal irrigation is the highest. In Salem the next largest proportion of area irrigated is 16.16 per cent under canals, in Dharmapuri it is 24.21 per cent under tanks and 41.87 per cent under canals, 31.38 per cent under wells and 28.65 per cent under tanks in Coimbatore, Tiruchirappalli and Madurai respectively.

3. It is seen from the table that canals, tanks and wells together share more than 92 per cent of the irrigated area in Dharmapuri, Tiruchirappalli and Madurai while the bulk of the coverage is distributed under canals and wells in Salem and Coimbatore. The distribution of the irrigated area under the significant size groups within districts is noted in the table below :—

TABLE LVII.

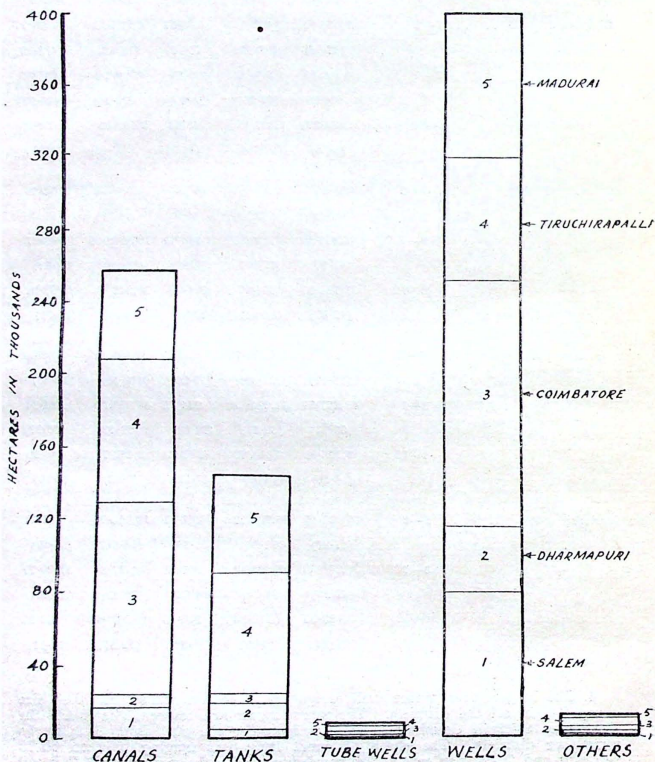
District. (1)	Size group. (2)	Canals. (3) HECTARE AND PER CENT.)	Tanks. (4) HECTARE AND PER CENT.)	Tube wells. (5) HECTARE AND PER CENT.)	Wells. (6) HECTARE AND PER CENT.)	Others. (7) HECTARE AND PER CENT.)
Salem (04)	1-2	5,040.74	2,048.42	64.01	14,738.53	497.98
		(29.15)	(32.85)	(15.50)	(18.34)	(18.65)
	3-7	11,865.69	4,065.21	337.79	62,905.20	1,075.89
		(68.62)	(65.19)	(81.79)	(78.26)	(74.01)
	8-12	385.80	123.30	11.21	2,730.25	196.05
		(2.23)	(1.96)	(2.71)	(3.40)	(7.34)

TABLE LVII—cont.

District.	Size group.	Canals.	Tanks.	Tube wells.	Wells.	Others.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)	(HECTARE AND PER CENT.)
Dharmapuri (05) ..	1—2	2,035.87 (32.05)	3,032.46 (22.42)	48.67 (8.16)	4,802.25 (13.82)	85.77 (13.28)
	3—7	4,100.98 (64.57)	9,098.33 (67.25)	469.18 (78.63)	27,363.38 (78.74)	486.57 (75.93)
	8—12	214.37 (3.33)	1,397.31 (10.33)	78.84 (13.21)	2,587.25 (7.44)	68.53 (10.69)
Coimbatore (06) ..	1—2	16,033.90 (15.26)	603.02 (12.75)	88.78 (4.29)	6,538.19 (4.78)	162.68 (5.50)
	3—7	75,863.89 (71.93)	3,436.29 (72.90)	1,446.09 (69.88)	101,928.37 (74.58)	1,703.87 (57.59)
	8—12	13,568.68 (12.87)	674.57 (14.31)	534.61 (25.83)	28,212.48 (20.64)	1,092.21 (36.91)
Tiruchirappalli (07) ..	1—2	27,890.92 (35.09)	18,181.76 (27.54)	237.07 (17.20)	13,073.62 (19.10)	785.00 (28.36)
	3—7	48,271.87 (60.73)	41,219.53 (62.44)	974.51 (70.69)	48,922.60 (71.47)	1,834.84 (66.28)
	8—12	3,326.09 (4.18)	6,614.83 (10.02)	166.90 (12.11)	6,452.71 (9.43)	148.29 (5.36)
Madurai (09) ..	1—2	15,220.45 (31.34)	16,738.33 (31.26)	308.12 (23.15)	12,026.06 (14.81)	821.11 (35.59)
	3—7	30,226.30 (62.23)	33,593.44 (62.74)	905.51 (68.03)	58,711.84 (72.33)	1,229.77 (53.30)
	8—12	3,123.95 (6.43)	3,213.84 (6.00)	117.38 (8.82)	10,436.93 (12.86)	256.52 (11.11)

4. The largest area under well irrigation is accommodated in the size group 3-7 in all the districts. The next largest area coverage is under the size group 8-12 in Coimbatore while it is under the size group 1-2 in the remaining districts. The share of canal irrigation ranging between 60.73 per cent and 71.93 per cent is the maximum under the size group 3-7 in all the districts. Tank irrigation with significant coverage in Dharmapuri, Tiruchirappalli and Madurai is much concentrated in the size group 3-7. The proportion of area benefited in this size group ranges between 62.44 per cent and 67.25 per cent and the area benefited in the size group 1-2 ranging between 22.42 per cent and 31.26 per cent, comes next in the order.

AREA IRRIGATED SOURCEWISE IN INLAND REGION AND ITS COMPONENT DISTRICTS



(vii) *Cropping Pattern.*

This portion of the chapter is devoted to the analysis of the relationship between the cropping pattern and the size classes. For the purpose of the analysis, the twelve size classes have been grouped under four significant size groups, i.e., 1-2, 3-4, 5-8 and 9-12. The size classes included in these groups do not show much variation in coverage with each other and they constitute homogenous groups. The analysis of gross cropped, irrigated and unirrigated area under food grains and non-food grains regionwise is taken up one after another.

(I) *Coastal Northern Region.*—The cropped area and percentage proportions under the significant size groups for the Coastal Northern Region are given in the table below :—

TABLE LVIII.

Size group.	Gross cropped area.		Total food grains.		Total non-food grains.	
	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.
(1)	(2) (HECTARE AND PER CENT.)	(3) (HECTARE AND PER CENT.)	(4) (PER CENT.)	(5) (PER CENT.)	(6) (PER CENT.)	(7) (PER CENT.)
1-2	2,64,487.95 (23.09)	1,31,324.59 (18.53)	87.02	47.61	12.98	52.39
3-4	4,48,455.39 (39.15)	2,89,559.35 (40.86)	84.24	44.95	15.76	55.05
5-8	4,17,825.89 (36.47)	2,72,357.51 (38.44)	81.77	41.57	18.23	58.43
9-12	14,795.01 (1.29)	15,348.66 (2.17)	81.65	25.93	18.35	74.07

Size group : 1-2=0-1 Hectare.

3-4=1-3 Hectares.

5-8=3-20 Hectares.

9-12=20 and above Hectares.

2. Of the total cropped area of 18.54 lakh hectares, the irrigated area accounts for 61.78 per cent or 11.45 lakh hectares, the remaining portion of the area being unirrigated. The irrigated cropped area accounts for 23.09 per cent in the size group 1-2, 39.15 per cent in the size group 3-4, 36.47 per cent in the size group 5-8 and 1.29 per cent in the size group 9-12.

3. Of the total unirrigated cropped area of 7.09 lakh hectares, 18.53 per cent is in the size group 1-2, 40.86 per cent in the size group 3-4, 38.44 per cent in the size group 5-8 and 2.17 per cent in the size group 9-12. The proportion of the cropped area under the size group 3-4 is the highest with 39.80 per cent in the region, next in order comes the size group 5-8 with 37.22 per cent and then the size group 1-2 with 21.35 per cent. It is 1.63 per cent in the size group 9-12.

4. In all the size groups more than 81 per cent of the irrigated cropped area is under food grains. The percentage proportion is the highest in the size group 1-2 and the lowest in the size group 9-12. Conversely the percentage proportion of the irrigated cropped area under non-food grains is the lowest in the size group 1-2 and the highest in the size group 9-12. There is an increasing trend in the proportions ranging from 12.98 per cent to 18.35 per cent.

5. The percentage proportion of the unirrigated cropped area under food grains is 47.61 as against 52.39 under non-food grains in the size group 1-2. In the subsequent size groups, the proportion of food grains declines gradually, while the proportion under non-food grains shows a gradual increase.

6. The districtwise proportions of cropped area are indicated below :—

TABLE LIX.

District.	(1)	Food grains.		Non-food grains.	
		Irrigated.	Unirrigated.	Irrigated.	Unirrigated.
		(2)	(3)	(4)	(5)
		PER CENT.	PER CENT.	PER CENT.	PER CENT.
Chingleput (01)	87.63	43.69	12.37	56.31
South Arcot (02)	80.15	50.05	19.85	49.95
North Arcot (03)	84.56	36.79	15.44	63.21

7. Of the total proportion of 87.63 per cent of irrigated food grains in Chingleput, rice alone accounts for 81.45 per cent. In South Arcot, rice accounts for 74.54 per cent while it is 78.19 per cent in North Arcot. In all these districts the next major component includes ragi and other cereals.

8. The unirrigated rice shares 27.67 per cent out of 43.69 per cent in Chingleput. In South Arcot the unirrigated rice constitutes 4.08 per cent out of the proportion of 50.05 per cent while it is only 1.07 per cent out of the proportion of 36.79 per cent in North Arcot. In Chingleput the next major crop component which includes ragi and other cereals, accounts for 10.04 per cent while next in order come pulses and cumbu accounting for 2.83 per cent and 2.75 per cent respectively. In South Arcot cholam, pulses, cumbu and "ragi and other cereals" account for 10.52 per cent, 5.29 per cent, 17.46 per cent and 12.70 per cent respectively. In North Arcot cholam with 11.47 per cent and ragi and other cereals with 11.43 per cent constitute the two major area components while pulses with 8.87 per cent comes next in order.

9. The size groupwise cropped area under important items of food grains is expressed as percentages in the following table :—

TABLE LX.

Food grains.	Size group.	Chingleput.		South Arcot.		North Arcot.	
		Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.
		(3)	(4)	(5)	(6)	(7)	(8)
(1)	(2)	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Rice	1—2	24.22	25.04	24.72	24.98	22.72	18.19
	3—4	36.40	38.63	37.54	39.48	43.74	44.27
	5—8	37.40	33.17	36.77	34.34	32.71	36.00
	9—12	1.98	2.26	0.97	1.20	0.83	1.54
Total area (Hec.)		2,94,302.63	27,480.58	3,05,771.76	13,014.48	2,92,436.90	3,100.52

TABLE LX—cont.

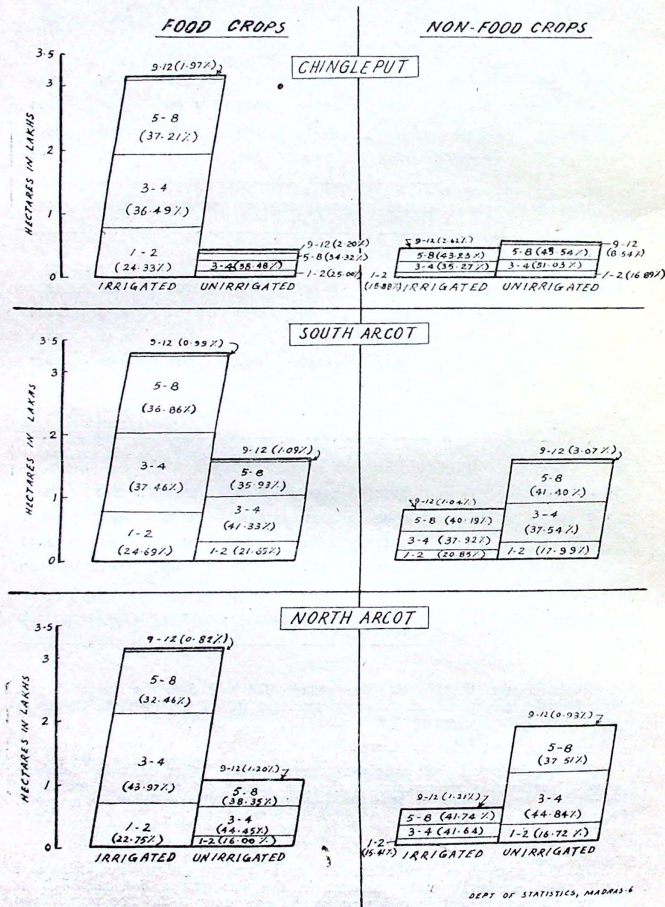
Food grains.	Size group.	Chingleput.		South Arcot.		North Arcot.	
		Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.
		(3) PER CENT.	(4) PER CENT.	(5) PER CENT.	(6) PER CENT.	(7) PER CENT.	(8) PER CENT.
Other cereals (Cholam, Cumbu, Ragi and Other cereals)	1— 2	24.86	23.68	24.81	21.27	23.29	16.30
	3— 4	38.97	40.64	37.60	41.98	47.63	44.45
	5— 8	33.91	33.74	36.40	35.81	28.55	38.08
	9—12	2.26	1.94	1.19	0.94	0.53	1.17
Total area (Hec.)	..	21,519.56	13,097.88	22,548.85	1,20,908.65	23,426.63	77,856.34
Pulses	1— 2	19.88	18.83	21.83	18.31	16.18	14.91
	3— 4	37.97	37.30	35.72	38.42	45.13	41.34
	5— 8	38.65	41.92	41.73	41.05	38.40	39.48
	9—12	3.50	1.95	0.72	2.22	0.29	1.27
Total area (Hec.)	..	808.22	2,805.44	468.36	16,896.93	397.80	25,705.87
Total food- grains.	1— 2	24.32	25.00	24.69	21.65	22.75	16.01
	3— 4	36.49	38.48	37.46	41.33	43.97	44.44
	5— 8	37.21	34.32	36.86	35.93	32.46	38.35
	9—12	1.98	2.20	0.99	1.09	0.82	1.20
Total area (Hec.)	..	3,16,630.41	43,383.90	3,28,788.97	1,59,820.06	3,16,261.33	1,06,662.73

10. It is seen that in the size groups 3-4 and 5-8, the irrigated and unirrigated rice cultivation is very significant in all the districts. Next in order comes the size group 1-2.

11. The irrigated and unirrigated area under other cereals (cholam, cumbu, ragi and other cereals) in the size groups 3-4 and 5-8 is uniformly significant in all the three districts and next in order comes the size group 1-2.

12. The percentage proportions of area under pulses irrigated and unirrigated are uniformly significant in the size groups 3-4 and 5-8 in all the districts. Next in order comes the size group 1-2. The proportions are rather low in North Arcot compared with other districts.

IRRIGATED AND UNIRRIGATED AREA SIZE GROUPWISE UNDER FOOD CROPS AND NON-FOOD CROPS IN COASTAL NORTHERN REGION



13. The percentage proportions of non-food grains area, size groupwise, are given in the table below :—

* TABLE LXI.

Non-food grains.	Size group.	Chingleput.		South Arcot.		North Arcot.	
		Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.
		(3)	(4)	*(5)	(6)	(7)	(8)
(1)	(2)	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Condiments Orchards and Vegetables.	1— 2	22.42	19.06	26.15	15.54	19.17	9.67
	3— 4	37.11	30.88	36.45	35.12	45.08	34.13
	5— 8	38.51	43.23	36.83	46.04	35.29	53.29
	9—12	1.96	6.83	0.57	3.30	0.46	2.91
Total area (Hec.)		4,324.90	2,189.56	3,549.39	10,917.98	6,369.27	3,673.07
Cotton	1— 2	13.25	14.91	25.40	18.30	10.30	16.23
	3— 4	26.65	20.07	32.25	32.05	39.40	34.78
	5— 8	58.11	58.45	41.77	48.62	50.30	49.99
	9—12	1.99	6.57	0.88	1.03	..	..
Total area (Hec.)		52.23	17.64	833.68	1,105.22	78.41	108.90
Sugarcane	1— 2	8.12	6.33	13.38	9.91	13.94	9.30
	3— 4	25.60	26.29	31.89	36.08	40.51	32.23
	5— 8	61.69	67.38	52.88	51.66	44.55	56.39
	9—12	4.59	..	1.85	2.35	1.00	2.08
Total area (Hec.)		2,286.39	66.46	15,911.69	137.02	18,924.29	236.23
Groundnut	1— 2	19.19	21.82	22.80	20.58	14.85	17.06
	3— 4	35.97	39.06	39.79	42.08	42.32	45.65
	5— 8	42.91	37.23	36.87	36.43	41.17	36.53
	9—12	1.93	8.89	0.84	0.91	1.66	0.76
Total area (Hec.)		31,071.03	30,755.17	56,171.87	97,251.26	26,339.02	1,70,084.73

TABLE LXI—*cont.*

Non-food grains.	Size group.	Chingleput.		South Arcot.		North Arcot.	
		Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.
		(3)	(4)	(5)	(6)	(7)	(8)
(1)	(2)	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Coconut, Gingelly and Oil seeds.	1— 2	14.16	21.89	16.93	20.89	17.38	16.17
	3— 4	32.07	30.94	30.50	34.95	38.39	38.44
	5— 8	47.05	43.47	51.66	41.69	43.92	44.48
	9—12	6.72	3.70	0.91	2.47	0.31	0.91
Total area (Hec.)		4,166.66	4,647.42	2,010.08	19,115.53	4,967.74	6,360.82
Coffee and Tea.	1— 2	33.78	11.39	10.65	13.99	98.41	21.03
	3— 4	53.19	49.41	17.44	17.91	1.59	44.86
	5— 8	13.03	9.37	71.91	68.10	..	34.11
	9—12	..	29.83	..	..	..	..
Total area (Hec.)		4.76	38.89	5.80	28.43	0.80	1.99
Others	1— 2	15.36	7.32	22.21	11.22	22.32	11.36
	3— 4	31.68	18.02	36.88	26.60	36.85	32.03
	5— 8	43.49	54.21	39.79	52.17	38.78	50.91
	9—12	9.47	20.45	1.12	10.01	2.05	5.70
Total area (Hec.)		2,792.34	18,212.34	2,951.99	30,965.34	1,070.59	2,807.42
Total non-food grains	1— 2	18.88	16.89	20.85	17.99	15.41	16.72
	3— 4	35.27	31.03	37.92	37.54	41.64	44.84
	5— 8	43.23	43.54	40.19	41.40	41.74	37.51
	9—12	2.62	8.54	1.04	3.07	1.21	0.93
Total area (Hec.)		44,698.91	55,927.48	81,434.50	1,59,520.78	57,750.12	1,83,275.16

14. The proportion of the cropped area under "condiments, orchards and vegetables" is uniformly significant in the size groups 3-4 and 5-8 in all the districts except for the irrigated item in the size group 3-4 and the unirrigated item in the size group 5-8, both of North Arcot, where the proportions are rather high compared with other districts. In the size group 1-2, the proportions vary between 9.67 per cent and 26.15 per cent. The coverage under unirrigated crop is rather low in South Arcot and North Arcot compared with Chingleput. Similarly the percentage proportions in

the size group 9-12 vary from district to district. The proportion of unirrigated area is the highest with 6.83 per cent in Chingleput while it is the lowest with 2.91 per cent in North Arcot. The proportion of irrigated area is the highest with 1.96 per cent in Chingleput while it is the lowest with 0.46 per cent in North Arcot.

15. It is seen that the total area under irrigated and unirrigated cotton is very low (about 70 hectares) in Chingleput. The total extent in North Arcot is about 200 hectares. An extent of about 2,000 hectares is located in South Arcot and about 80 per cent of this is covered in the size groups 3-4 and 5-8.

16. The area under sugarcane is the highest in North Arcot, followed by South Arcot while it is the lowest in Chingleput. The area under unirrigated sugarcane is insignificant in all the districts. More than 80 per cent of the irrigated area under sugarcane is covered within the size groups 3-4 and 5-8 uniformly in all the districts.

17. The area under groundnut, irrigated and unirrigated, is significant with about 80 per cent coverage in the size groups 3-4 and 5-8 in all the districts. The overall area coverage is rather high in North Arcot, while the proportion covered in the size group 1-2 in that district is rather low when compared with other districts.

18. The irrigated and unirrigated area under gingelly, coconut and other oil seeds is highly concentrated in the size group 5-8 in all the districts. The irrigated proportion in this size group is the highest in South Arcot with 51.66 per cent, while under the unirrigated cultivation it is the highest in North Arcot with 44.48 per cent. The next significant size group is 3-4 in all the districts. The irrigated proportion is the highest with 38.39 per cent and the unirrigated proportion is the highest with 38.44 per cent both being in North Arcot. Under the size group 1-2, the percentage proportion of area irrigated is the highest in North Arcot with 17.38 while the highest proportion of 21.89 of unirrigated area is in Chingleput. The proportion of area represented in the size group 9-12 is less than 7 per cent in all the districts, the highest coverage being 6.72 per cent under irrigated cultivation in Chingleput and the lowest with 0.31 per cent in North Arcot. The proportion under unirrigated cultivation is the highest with 3.70 per cent in Chingleput while it is the lowest with 0.91 per cent in North Arcot.

19. The area under coffee and tea is very meagre in the region, the coverage being mostly under the unirrigated cultivation.

20. The area under "others" is rather significant in South Arcot. Next in order comes Chingleput. The magnitude of the coverage is significant in the size groups 3-4 and 5-8. The proportion of unirrigated area in the size group 5-8 is about 50 per cent uniformly in all the districts while it shows variations in the size group 3-4.

(II) *Coastal Southern Region.*—The cropped area, size groupwise, in the Coastal Southern Region is indicated in the table below:—

TABLE LXII.

Size group.	Gross cropped area.		Total food grains.		Total non-food grains.	
	Irrigated. Unirrigated.		Irrigated. Unirrigated.		Irrigated. Unirrigated.	
	(1)	(2)	(3)	(4)	(5)	(6)
		HECTARE.	HECTARE.	PER CENT.	PER CENT.	PER CENT.
1-2	2,93,070.89	1,35,435.34	91.47	58.10	8.53
3-4	4,01,387.17	2,91,404.73	91.25	57.12	8.75
5-8	3,38,353.42	3,91,535.06	87.99	51.42	12.01
9-12	20,805.57	34,941.98	81.47	40.32	18.53

2. It may be seen that the proportion of the cropped area irrigated is 55.25 per cent or 10,53,616.05 hectares in the region. A break up of the proportions of gross cropped area, size groupwise, is noted below :—

Size group.		Gross cropped area.	
		Irrigated.	Unirrigated.
(1)		(2)	(3)
		PER CENT.	PER CENT.
1-2	.. .. .	27.82	15.87
3-4	.. .. .	38.10	34.15
5-8	.. .. .	32.11	45.88
9-12	.. .. .	1.97	4.10

3. In the case of irrigated area, the largest chunk is accommodated in the size group 3-4; next in order comes the size group 5-8. Conversely, the largest chunk of the unirrigated area is in the size group 5-8; next in order comes the size group 3-4.

4. The proportion of area under food grains irrigated is the highest in the size group 1-2 and then there is a declining trend in all the subsequent three size groups.

5. The percentage of area under non-food grains irrigated is the lowest with 8.53 in the size group 1-2 and subsequently there is a gradual increase in the area and it is 18.53 per cent in the size group 9-12.

6. The irrigated area under rice constitutes the major item and it is the highest with 95.20 per cent in Thanjavur, the second largest is 75.02 per cent in Ramanathapuram and then comes Tirunelveli with 59.24 per cent.

7. Under non-food grains irrigated, condiments constitute the major item in Ramanathapuram with 7.74 per cent and Tirunelveli with 7.76 per cent. Groundnut with 1.61 per cent constitutes the major item in Thanjavur.

8. Unirrigated food grains account for 58.10 per cent in the size group 1-2, being the largest area in the region. In the subsequent size groups the proportion declines gradually and it is 40.32 per cent in the size group 9-12, being the lowest in the region. Conversely, in the case of unirrigated non-food grains, the size group 1-2 starts with the lowest proportion, gradually increases in each of the subsequent size groups and it is 59.68 per cent in the size group 9-12, being the highest in the region.

9. Amongst unirrigated food grains, pulses in Thanjavur with 28.73 per cent and Tirunelveli with 11.06 per cent constitute the major item in the region. Ragi and other cereals constitute the major item in Ramanathapuram with 21.45 per cent.

10. The area under non-food grains unirrigated is the maximum under cotton with 15.23 per cent in the region.

11. In all the size groups, there is inverse relationship between food grains and non-food grains both under the classifications irrigated and unirrigated.

12. The area under important items of food grains, size groupwise, expressed as percentages is indicated in the table below :—

TABLE LXIII.

Food grains.	Size group.	Thanjavur.		Ramanathapuram.		Tirunelveli.	
		Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Rice	1-2	21.87	20.71	31.68	19.06	54.79	36.54
	3-4	42.05	38.15	37.00	38.84	26.07	28.16
	5-8	34.32	38.40	30.05	40.49	18.83	32.11
	9-12	1.76	2.74	1.27	1.61	2.81	3.10
Total area (Hec.)		697,839.43	24,243.97	166,627.57	78,599.02	121,437.01	1,876.53

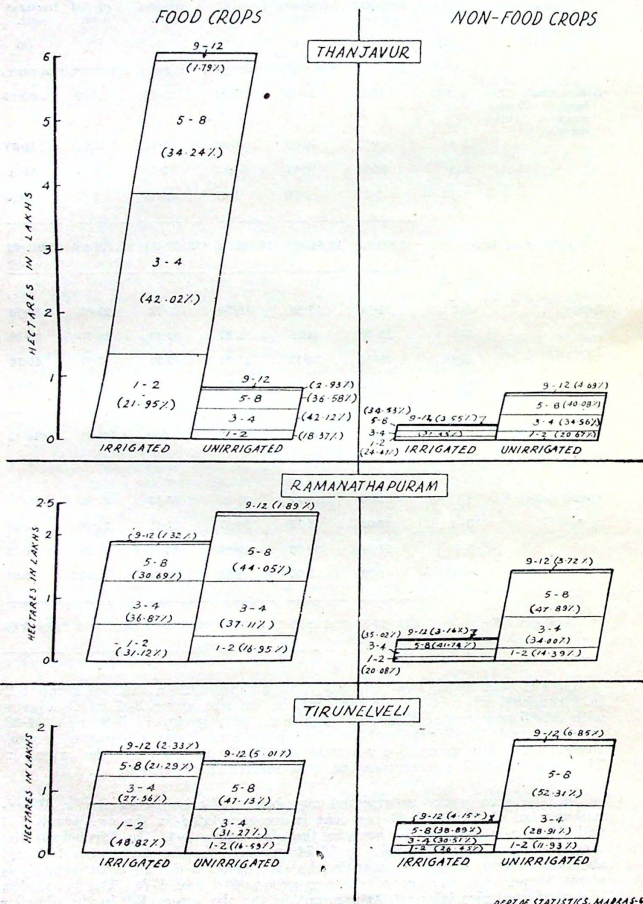
TABLE LXIII—cont.

Food grains.	Size group.	Thanjavur.		Ramanathapuram.		Tirunelveli.	
		Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Other cereals (Cholam, Cumbu, Ragi & Other cereals).	1-2	32.16	20.70	28.51	15.27	24.90	22.46
	3-4	38.31	40.53	35.45	35.45	31.92	31.50
	5-8	26.36	35.07	34.53	47.23	40.49	42.20
	9-12	3.17	2.70	1.51	2.05	2.69	3.85
Total area (Hec.)		5,831.97	12,343.99	20,190.65	138,438.85	36,277.88	108,060.02
Pulses	1-2	25.14	17.36	18.70	16.72	27.06	19.74
	3-4	35.20	44.95	33.87	35.44	29.75	33.28
	5-8	39.34	34.42	41.92	45.32	37.87	41.54
	9-12	0.32	3.27	5.51	2.52	5.32	5.44
Total area (Hec.)		343.19	44,190.93	396.75	17,134.28	1,161.29	35,654.33
Total Food grains.	1-2	21.95	18.37	31.12	16.95	48.82	16.59
	3-4	42.02	42.12	36.87	37.11	27.56	31.27
	5-8	34.24	36.58	30.69	44.05	21.29	47.13
	9-12	1.79	2.93	1.32	1.89	2.33	5.01
Total area (Hec.)		604,014.59	80,778.89	186,123.97	234,172.15	158,876.18	145,610.88

13. The area under rice irrigated is very significant in the size group 1-2 in Tirunelveli with 54.79 per cent and in the size group 3-4 in Thanjavur with 42.05 per cent. The next significant size group is 5-8 with 34.32 per cent and 30.05 per cent in Thanjavur and Ramanathapuram respectively. The size group 3-4 accounts for 26.07 per cent of the area in Tirunelveli and 37 per cent of the area in Ramanathapuram.

14. The area under unirrigated rice has the largest coverage in Ramanathapuram of which 40.49 per cent is accommodated in the size group 5-8 and 38.84 per cent of the area in the size group 3-4. In Tirunelveli the largest proportion of the area is 36.54 per cent in the size group 1-2 and the next largest 32.11 per cent in the size group 5-8. In Thanjavur it is about 38 per cent in each of the size groups 3-4 and 5-8. The proportion of unirrigated rice is about 20 per cent in the size group 1-2 in the districts of Ramanathapuram and Thanjavur.

IRRIGATED AND UNIRRIGATED AREA SIZE GROUPWISE UNDER FOOD CROPS AND NON-FOOD CROPS IN COASTAL SOUTHERN REGION



15. The irrigated area under other cereals (cholam, cumbu, ragi and other cereals) is very significant in the size group 3-4 both in Thanjavur with 38.31 per cent and in Ramanathapuram with 35.45 per cent and in the size group 5-8 with 40.49 per cent in Tirunelveli. The unirrigated area is significant in the size group 3-4 with 40.53 per cent in Thanjavur and in the size group 5-8 with 47.23 per cent in Ramanathapuram and 42.20 per cent in Tirunelveli. The unirrigated area coverage in Ramanathapuram and Tirunelveli is fairly large when compared to that of Thanjavur.

16. The irrigated area under pulses is less than 400 hectares in Thanjavur and Ramanathapuram, while it is about 1,200 hectares in Tirunelveli.

17. In Thanjavur, the unirrigated area under pulses is the highest with 44.95 per cent in the size group 3-4 and the next highest is 34.54 per cent in the size group 5-8. In Ramanathapuram and Tirunelveli the highest proportions viz., 45.32 per cent and 41.54 per cent are in the size group 5-8.

18. The proportion of area under non-food grains, significant groupwise, is given in the table below :—

TABLE LXIV.

Non-food grains.	Size group.	Thanjavur.		Ramanathapuram.		Tirunelveli.	
		Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Condiments, Orchards & Vegetables.	1-2	31.60	25.23	18.94	14.43	28.71	10.12
	3-4	37.33	32.28	36.07	30.99	30.42	21.29
	5-8	28.34	37.28	43.18	49.72	36.81	50.80
	9-12	2.73	5.21	1.81	4.86	4.06	17.79
	Total area (Hec.)	7,080.14	3,484.61	19,409.22	9,865.72	27,216.16	12,783.76
Cotton	1-2	14.28	9.88	25.91	12.68	27.73	11.32
	3-4	47.34	16.98	37.71	32.96	33.32	30.72
	5-8	38.38	72.18	35.40	52.01	36.53	53.49
	9-12	..	0.96	0.98	2.35	2.42	4.47
	Total area (Hec.)	40.18	43.81	5,444.37	57,651.28	8,465.87	72,298.23
Sugarcane	1-2	14.94	11.74	24.33	10.30	12.74	18.11
	3-4	32.75	27.18	34.97	30.09	33.47	30.31
	5-8	44.50	50.32	38.06	59.61	49.57	50.42
	9-12	7.81	1.76	2.64	...	4.22	1.16
	Total area (Hec.)	3,434.00	39.11	2,647.52	75.23	738.93	130.41

TABLE LXIV.—cont.

Non-food grains.	Size group.	Thanjavur.		Ramanathapuram.		Tirymelveli.	
		Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.	Irrigated area.	Un-irrigated area.
		(3)	(4)	(5)	(6)	(7)	(8)
(1)	(2)	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Groundnut	1-2	24.02	23.57	18.17	20.30	24.04	20.34
	3-4	41.39	39.65	41.41	39.54	32.16	29.89
	5-8	33.24	34.87	38.60	38.30	40.26	43.33
	9-12	1.35	1.01	1.82	1.86	3.54	6.44
	Total area (Hec.)	10,137.52	30,153.63	1,893.37	32,917.35	4,914.93	8,580.98
Coconut, Gingelly and Oil seeds.	1-2	25.04	19.11	22.50	12.71	31.59	17.25
	3-4	36.53	31.60	27.21	29.66	27.46	31.12
	5-8	35.65	41.14	43.73	50.21	32.92	44.46
	9-12	2.78	8.15	6.56	7.42	8.03	7.17
	Total area (Hec.)	708.70	22,428.27	3,736.93	10,690.48	2,139.75	14,474.31
Coffee and Tea.	1-2	19.01	25.03	..	14.50	30.26	17.99
	3-4	23.66	35.38	20.45	39.35	2.83	18.29
	5-8	57.33	30.60	79.55	46.15	18.21	56.61
	9-12	..	8.99	..	..	48.70	7.11
	Total area (Hec.)	1.45	4.88	3.30	7.47	96.19	8.98
Others	1-2	24.01	15.02	19.27	11.25	27.96	10.75
	3-4	30.82	30.74	33.10	30.91	27.00	26.89
	5-8	37.86	46.84	43.71	50.84	39.43	53.35
	9-12	7.31	7.40	3.92	7.00	5.61	9.01
	Total area (Hec.)	2,561.21	16,883.11	1,392.61	31,658.52	2,558.06	68,566.05
Total non-food grains.	1-2	24.47	20.67	20.08	14.39	26.45	11.93
	3-4	37.45	34.56	35.02	34.00	30.51	28.91
	5-8	34.53	40.08	41.74	47.89	38.89	52.31
	9-12	3.55	8.69	3.16	3.72	4.15	6.85
	Total area (Hec.)	23,944.10	73,037.42	34,527.32	1,42,866.05	46,129.89	1,78,851.72

19. Both irrigated and unirrigated area under condiments, orchards and vegetables are the highest in Tirunelveli and the lowest in Thanjavur. The highest proportions of area irrigated and unirrigated are accommodated in the size group 5-8 in Ramanathapuram and Tirunelveli. In Thanjavur, the highest proportion under irrigated area is accommodated in the size group 3-4 and under unirrigated area in the size group 5-8. The second largest proportion of irrigated and unirrigated area is found in the size group 3-4 in all the districts except Thanjavur where it is in the size group 1-2 under irrigated area and in the size group 3-4 under unirrigated area. In all the districts, under irrigated and unirrigated crops, the third largest proportion is located in the size group 1-2 except in Thanjavur where it is in the size group 5-8 under the irrigated crops. The proportion of area both irrigated and unirrigated under the size group 9-12 is the highest in Tirunelveli with 4.06 per cent and 17.79 per cent respectively.

20. The area under cotton, irrigated and unirrigated, is significant in Tirunelveli and Ramanathapuram while the total area under this crop is as low as 84 hectares in Thanjavur. Cotton unirrigated is very significant in the size group 5-8 with 72.18 per cent of area in Thanjavur, with 52.01 per cent of area in Ramanathapuram and with 53.49 per cent of area in Tirunelveli. The next largest proportion of area is located in the size group 3-4 in all the districts. The proportion of area under irrigated cotton is the highest in the size group 3-4 in Thanjavur and Ramanathapuram with 47.34 per cent and 37.71 per cent and in the size group 5-8 in Tirunelveli with 36.53 per cent.

21. The proportion of area under sugarcane, irrigated and unirrigated, is the maximum in the size group 5-8 in all the districts, though the actual unirrigated area is not significant. The percentage proportion of irrigated sugarcane in Tirunelveli with 49.57 in the size group 5-8 is the highest though the overall area coverage is not considerable compared to Ramanathapuram and Thanjavur. The second largest area coverage under irrigated sugarcane is found in the size group 3-4 in all the districts and the third largest area coverage is under the size group 1-2 in all the districts and in this size group the percentage proportion is the highest in Ramanathapuram and the lowest in Tirunelveli.

22. The irrigated area under groundnut is significant in the size group 3-4 both in Thanjavur with 41.39 per cent and in Ramanathapuram with 41.41 per cent while it is significant in the size group 5-8 in Tirunelveli with 40.26 per cent. The second largest coverage is in the size group 5-8 both in Ramanathapuram with 38.60 per cent and in Thanjavur with 33.24 per cent while it is in the size group 3-4 in Tirunelveli with 32.16 per cent. The third largest area is located in the size group 1-2 uniformly in all the districts.

23. Of the total area of 88,598 hectares under groundnut, the unirrigated area is the maximum (80.9 per cent) in the region. The unirrigated area under groundnut in Thanjavur and Ramanathapuram is very significant in the size group 3-4 while it is significant in the size group 5-8 in Tirunelveli. The second largest proportion is found in the size group 5-8 in Thanjavur and Ramanathapuram while it is in the size group 3-4 in Tirunelveli. The third largest area is accounted for by the size group 1-2 in all the districts. The percentage proportion of area irrigated as well as unirrigated, represented by the size group 9-12, is less than 2 per cent in all the districts, except Tirunelveli where the irrigated and unirrigated area account for 3.54 per cent and 6.44 per cent respectively.

24. The area coverage under coconut, gingelly and other oil seeds is very significant under unirrigated crop in all the districts, Thanjavur sharing the maximum area, Tirunelveli coming next and then Ramanathapuram. The area represented by the size group 5-8 is uniformly the maximum in all the districts. The second largest area coverage is found in the size group 3-4 while the third largest coverage is located under the size group 1-2 in all the districts. The most significant group under irrigated crop is 5-8 in Ramanathapuram and Tirunelveli while it is 3-4 in Thanjavur.

25. The area under coffee and tea is very insignificant in all the districts except Tirunelveli where the area is about 100 hectares mostly under irrigated cultivation in the size group 9-12 with 48.70 per cent of area and in the size group 1-2 with 30.26 per cent of the area.

26. Under the classification "others", the unirrigated area is very large in all the districts. There are about 2,000 hectares of irrigated area in each of the three districts. The largest proportion of unirrigated area is accommodated in the size group 5-8 in all the districts. It is the highest with 53.35 per cent in Tirunelveli and the lowest with 46.84 per cent in Thanjavur.

27. The analysis reveals an overall trend (viz.), the predominance of area under irrigated and unirrigated food grains in the size group 3-4 and 5-8.

(III) *Inland Region*.—The total gross cropped area in the Inland Region is of the order of 31,13,284.46 hectares of which 10,48,491.26 hectares or 33.68 per cent are irrigated. The percentage proportion of area irrigated and unirrigated in the region under significant size groups is indicated below :—

TABLE LXV.

Size group. (1)	Irrigated. (2)	Unirrigated. (3)
	PER CENT.	PER CENT.
1-2	20.51	12.40
3-4	35.88	35.29
5-8	41.04	48.38
9-12	2.57	3.93
Total area	100.00 (10,48,491.26 Hec.)	100.00 (20,64,793.20 Hec.)

2. The proportion of irrigated area is the highest in the size group 5-8 while it is the lowest in the size group 9-12. Similarly in the case of unirrigated area, it is the highest under the size group 5-8 while it is the lowest in the size group 9-12. It is, however, seen that the unirrigated area is the highest in the size groups 5-8 and 9-12 put together while the irrigated area is the highest in the size groups 1-2 and 3-4 put together.

3. The percentage distribution of irrigated and unirrigated area under food grains and non-food grains is indicated in the table below :—

TABLE LXVI.

Size group.	Food grains.		Non-food grains.	
	Irrigated area.	Unirrigated area.	Irrigated area.	Unirrigated area.
(1)	(2)	(3)	(4)	(5)
	PER CENT.	PER CENT.	PER CENT.	PER CENT.
1-2	81.53	67.65	18.47	32.35
3-4	72.81	68.07	27.19	31.93
5-8	64.79	66.35	35.21	33.65
9-12	61.06	48.77	38.94	51.23

4. Of the total area under food grains, the proportion of area irrigated is 81.53 per cent in the size group 1-2; it is 72.81 per cent in the size group 3-4. There is a declining trend in the third and fourth size groups while there is an increasing trend in the corresponding size groups under irrigated non-food grains.

5. The proportion of area under unirrigated food grains shows a small increase from the size group 1-2 to the size group 3-4 and then it decreases till the fourth size group where it is 48.77 per cent. Correspondingly in the case of unirrigated non-food grains, there is a decrease in the proportion from the size group 1-2 to the size group 3-4 after which the proportion increases. Thus it is seen that the proportions of irrigated food and non-food grains and unirrigated food and non-food grains distributed over the twelve size classes are inversely related.

6. The percentage break up of the cropped area under food and non-food grains districtwise is given below :—

TABLE LXVII.

District.	Total food grains.		Total non-food grains.	
	Irriga- ted area.	Unirri- gated area.	Irriga- ted area.	Unirri- gated area.
	(1)	(2)	(3)	(4)
	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Salem (04)	68.41	59.06	31.59	40.94
Dharmapuri (05)	81.04	79.00	18.96	21.00
Coimbatore (06)	56.87	66.87	43.13	33.13
Tiruchirappalli (07)	78.98	67.92	21.02	32.08
Madurai (09)	78.56	58.01	21.44	41.99

7. In Salem, the irrigated area under food grains is 68.41 per cent. Of this, rice alone accounts for 49.54 per cent while the next two important items are cholam with 6.41 per cent and ragi and other cereals with 6.92 per cent. The remaining 31.59 per cent of the irrigated area in the district is under non-food grains, significant among them being cotton with 3.11 per cent, sugarcane with 5.39 per cent, groundnut with 5.25 per cent and "others" with 11.49 per cent. The unirrigated cropped area under food grains accounts for 59.06 per cent and the significant items of crops are cholam with 23.08 per cent, cumbu with 15.68 per cent, ragi and other cereals with 13.55 per cent and pulses with 6.45 per cent. Non-food grains accounting for 40.94 per cent of the unirrigated cropped area, include groundnut with 31.28 per cent and cotton with 3.28 per cent, being the significant items in the group.

8. In Dharmapuri, the irrigated cropped area under food grains accounts for 81.04 per cent of which the share of rice alone is 69.63 per cent, ragi and other cereals 7.78 per cent and cumbu 2.61 per cent.

9. The irrigated cropped area under non-food grains shares 18.96 per cent of the area in the district. Vegetables with 2.33 per cent, cotton with 2.93 per cent, sugarcane with 5.01 per cent and coconut with 2.38 per cent represent significant items of crops in the group.

10. The unirrigated cropped area under food grains accounts for 19.00 per cent, comprising of ragi and other cereals with 41.32 per cent, pulses with 18.14 per cent, cholam with 16.05 per cent and cumbu with 3.21 per cent.

11. The proportion of unirrigated cropped area under non-food grains is 21.00 per cent. The significant items of crops in the group are groundnut with 12.11 per cent, gingelly with 3.28 per cent and orchards with 1.90 per cent.

12. In Coimbatore, the irrigated cropped area under food grains accounts for 56.87 per cent, the remaining 43.13 per cent accounting for non-food grains. Rice with 29.51 per cent, cholam with 11.49 per cent, cumbu with 4.48 per cent and ragi and other cereals with 10.17 per cent account for the major coverage in the group.

13. Under irrigated non-food grains, cotton with 15.68 per cent, sugarcane with 7.55 per cent, condiments with 4.54 per cent, groundnut with 5.22 per cent, coconut with 3.16 per cent and "others" with 3.94 per cent constitute the significant items in the district.

14. The unirrigated cropped area under food grains accounts for 66.87 per cent and non-food grains 33.13 per cent. The significant items of crops in the food grain group are cholam with 33.19 per cent, cumbu with 8.05 per cent, ragi and other cereals with 8.86 per cent and pulses with 16.68 per cent. Cotton with 6.22 per cent and groundnut with 20.90 per cent represent the significant items in the non-food grains group.

15. Tiruchirappalli has 78.98 per cent of the irrigated cropped area under food grains leaving only 21.02 per cent of the area under non-food grains. Rice shares the major portion with 67.99 per cent; cholam with 4.80 per cent and cumbu with 3.76 per cent are the next two important crops included in the food grains group. Condiments with 4.94 per cent, orchards with 3.00 per cent, sugarcane with 4.08 per cent and groundnut with 4.59 per cent represent the important items in the irrigated non-food grains in the district.

16. The unirrigated cropped area under food grains accounts for 67.92 per cent, the rest being accounted for by non-food grains.

17. Rice with 4.45 per cent, cholam with 23.35 per cent, cumbu with 17.18 per cent, ragi and other cereals with 15.96 per cent and pulses with 6.98 per cent constitute the important items under food grains.

18. Groundnut with 16.18 per cent, gingelly with 5.55 per cent and "others" with 5.54 per cent represent the significant items of unirrigated non-food grains in the district.

19. In Madurai, the irrigated food grains cover 78.56 per cent and non-food grains 21.44 per cent. Rice with 58.78 per cent, cholam with 12.38 per cent and ragi and other cereals with 5.27 per cent are the important food grains in the district.

20. Condiments with 5.12 per cent, orchards with 1.70 per cent, vegetables with 2.28 per cent, cotton with 3.91 per cent, sugarcane with 2.50 per cent and groundnut with 3.11 per cent comprise the important items in the irrigated non-food grains group in the district.

21. The unirrigated cropped area in the district is comprised of 58.01 per cent under food grains and 41.99 per cent under non-food grains.

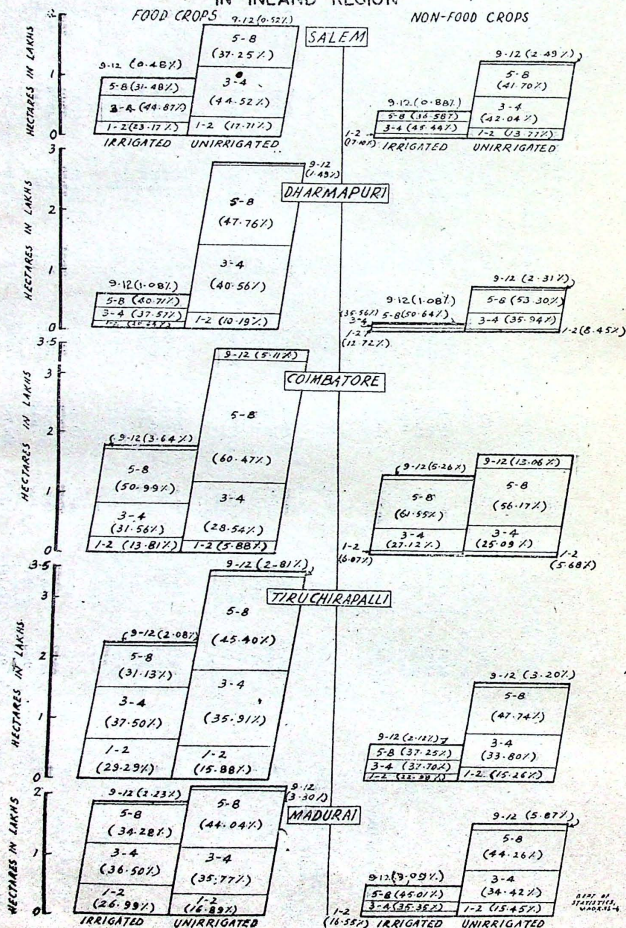
22. Cholam with 25.20 per cent, ragi and other cereals with 16.84 per cent, cumbu with 7.76 per cent and pulses with 7.97 per cent constitute the important items in the food grains group, while orchards with 4.06 per cent, cotton with 6.38 per cent, groundnut with 21.74 per cent and gingelly with 3.01 per cent constitute the major items under non-food grains in the district.

23. The area under important food grains within districts distributed under different size groups is indicated in the table below :—

TABLE LXVIII.

Food grain.	Size group.	Salem.		Dharmapuri.		Coimbatore.		Tiruchirappalli.		Madurai.	
		Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT
Rice	1-2	24.61	17.28	21.47	13.10	21.40	5.50	30.77	23.82	30.23	25.29
	3-4	46.26	44.05	37.25	40.47	35.97	23.64	37.69	38.17	37.35	36.13
	5-8	23.82	37.88	40.20	45.45	40.75	60.55	29.58	36.00	30.66	38.07
	9-12	0.41	0.79	1.08	0.98	1.88	4.31	1.96	1.11	1.86	0.61
	Total area (Hectares)	69,693	960	49,192	1,027	92,345	476	193,897	22,091	140,528	1,045
Other cereals (cholan, Cumbu, Raggi & other cereals).	1-2	19.44	17.54	15.47	10.84	5.92	6.47	20.44	15.54	17.49	17.71
	3-4	43.87	44.36	39.80	42.05	27.81	29.43	36.36	35.68	32.92	37.49
	5-8	35.09	37.67	43.44	45.88	61.25	59.06	40.47	45.91	46.05	42.18
	9-12	0.70	0.53	1.20	1.23	5.02	5.04	2.73	2.87	3.54	2.62
	Total area (Hectares)	25,607	164,543	7,865	215,295	81,785	256,600	31,020	238,117	45,439	185,392
Pulses	1-2	25.95	18.74	11.40	8.93	5.10	4.44	18.16	12.17	20.73	8.61
	3-4	46.24	40.43	29.89	39.16	23.79	25.54	34.39	33.45	37.48	26.46
	5-8	28.29	34.25	58.17	50.10	65.15	63.95	42.56	50.18	34.99	53.29
	9-12	0.62	0.68	0.64	1.81	0.96	6.07	4.89	4.00	6.80	6.74
	Total area (Hectares)	946	20,288	201	64,467	3,512	85,432	316	35,581	1,848	20,714
Total Food grains	1-2	23.17	17.71	20.64	10.19	13.81	5.88	29.20	15.88	26.99	16.89
	3-4	44.87	44.52	37.67	40.56	31.56	28.54	37.50	35.91	36.60	35.77
	5-8	31.48	37.25	40.71	47.76	60.99	60.47	31.13	45.40	34.28	44.04
	9-12	0.48	0.52	1.08	1.49	3.64	5.11	2.93	2.81	2.23	3.30
	Total area (Hectares)	90,346	185,791	57,258	280,789	177,942	342,408	225,232	346,389	187,815	216,161

IRRIGATED AND UNIRRIGATED AREA SIZE GROUPWISE UNDER FOOD CROPS AND NON-FOOD CROPS IN INLAND REGION



24. It is seen from the above table that rice is extensively cultivated under irrigated farming with maximum representation in the size group 3-4 in Salem, Tiruchirappalli and Madurai and in the size group 5-8 in Dharmapuri and Coimbatore. The highest proportion of unirrigated rice is in the size group 3-4 in Salem and Tiruchirappalli, while it is in the size group 5-8 in Dharmapuri, Coimbatore and Madurai.

25. The second largest area coverage under irrigated rice is in the size group 5-8 in Salem and Madurai while it is in the size group 3-4 in Coimbatore and Dharmapuri and in the size group 1-2 in Tiruchirappalli. In the case of unirrigated rice, it is in the size group 5-8 in Salem and Tiruchirappalli while it is located in the size group 3-4 in Dharmapuri, Coimbatore and Madurai. The third largest area coverage under both irrigated and unirrigated rice is in the size group 1-2. The proportion of area ranges between 21.40 per cent and 30.77 per cent in the case of irrigated rice and from 5.50 per cent to 25.29 per cent in the case of unirrigated rice.

26. The area coverage under both irrigated and unirrigated in the size group 9-12 is about 1 per cent in Salem and Dharmapuri. In Tiruchirappalli and Madurai, the irrigated area coverage is about 2 per cent and the unirrigated area coverage is about 1 per cent. The area coverage is about 2 per cent and 4 per cent under irrigated and unirrigated respectively in Coimbatore district. Considering the total area of 476 hectares covered under unirrigated rice in Coimbatore, the proportion of 4 per cent is not significant and similarly the percentage proportion represented under the size group 9-12 is not significant in all the districts.

27. The proportion of area under other cereals, both irrigated and unirrigated, represented in the size group 3-4 is significant in Salem while it is significant in the size group 5-8 in the remaining districts. The second largest area is located under the size group 5-8 in Salem and in 3-4 in all the remaining districts. The third largest coverage of the cropped area is in the size group 1-2 in all the districts, ranging from 5.92 per cent to 20.44 per cent in the case of irrigated area and from 6.47 per cent to 17.71 per cent in the case of unirrigated area. In Coimbatore, the proportions of area irrigated and unirrigated, represented in the size groups 1-2 and 9-12, are almost equal.

28. A significant proportion of irrigated area under pulses is in the size group 3-4 in Salem and Madurai while it is in the size group 5-8 in the remaining districts. It may, however, be seen from the table that the overall irrigated area coverage is not very significant and it is less than 1,000 hectares in all the districts, except Coimbatore and Madurai, where it is 3,812 and 1,848 hectares respectively.

29. The proportion of the area under pulses unirrigated in the size group 3-4 is very significant in Salem and the largest area is in the size group 5-8 in the remaining districts. The next largest area is represented in the size group 5-8 in respect of Salem and in the size group 3-4 in other districts. The third largest area is accommodated in the size group 1-2 in all the districts except Coimbatore where it is in the size group 9-12. The percentage proportion of unirrigated area represented in the size group 9-12 is about 1 per cent in Salem, about 2 per cent in Dharmapuri, about 4 per cent in Tiruchirappalli and about 6 per cent in Coimbatore and Madurai.

30. The overall trend in the cropping pattern of food grains is that the aggregate of percentages of irrigated food grains represented in the size groups 1-2 and 3-4 is larger than the unirrigated in all the districts and *vice versa* in the size groups 5-8 and 9-12. The area distributed under the size groups 1-2 and 3-4 together is larger than the area under the size groups 5-8 and 9-12 together in all the districts except Coimbatore where the total area accommodated under the size groups 5-8 and 9-12 together is fairly larger than in the size groups 1-2 and 3-4 together.

31. The percentage proportions of area under non-food grains irrigated and unirrigated distributed over the significant size groups are given in the table below :—

TABLE LXIX.

Non-food grains.	Size group.	Salem.		Dharmapuri.		Coimbatore.		Tiruchirappalli.		Madurai.	
		Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT
Condiments, Orchards and Vegetables.	1-2	15.27	11.71	11.17	8.94	8.30	2.59	22.02	14.09	17.93	12.94
	3-4	42.87	35.96	35.78	31.50	28.19	15.03	39.35	36.29	37.30	26.03
	5-8	41.39	44.40	51.87	55.98	57.85	50.47	36.92	47.98	42.30	46.36
	9-12	0.47	7.93	1.18	3.58	5.66	31.01	1.71	1.64	2.47	16.07
	Total area (Hectares)	0.210	2,156	3,533	10,467	21,518	2,694	25,087	15,631	21,737	19,343
Cotton.	1-2	17.74	17.17	9.24	10.17	4.76	3.34	14.36	11.90	18.11	17.22
	3-4	44.56	43.55	32.80	34.56	26.37	20.54	33.75	35.06	32.80	38.23
	5-8	37.14	38.93	57.45	53.70	63.70	65.95	47.45	49.99	45.71	40.89
	9-12	0.56	0.35	0.51	1.51	5.17	10.17	4.44	3.05	3.38	3.66
	Total area (Hectares)	4,875	10,324	2,067	1,106	49,058	31,863	3,683	5,646	9,359	23,786
Sugarcane.	1-2	18.73	19.57	13.85	7.16	7.24	7.09	24.16	10.36	17.28	11.50
	3-4	42.33	46.24	34.97	30.37	29.62	17.35	37.00	30.98	34.70	24.74
	5-8	38.00	34.19	49.83	57.82	58.86	69.84	36.71	52.04	44.48	51.39
	9-12	0.94	..	1.35	4.05	4.38	5.72	2.13	6.02	3.54	12.37
	Total area (Hectares)	7,586	75	3,541	375	23,607	263	11,620	117	5,973	139
Groundnut.	1-2	16.75	13.86	11.46	9.28	6.23	7.21	24.66	19.27	12.86	17.31
	3-4	46.19	43.29	39.72	39.42	31.95	29.84	37.51	37.68	37.32	38.07
	5-8	36.16	42.51	48.38	49.86	58.62	57.93	36.01	41.01	47.46	42.21
	9-12	0.90	0.34	0.44	1.44	3.20	5.02	1.82	2.04	2.36	2.41
	Total area (Hectares)	7,386	98,399	1,275	43,031	16,325	107,045	13,087	82,500	7,423	81,014

TABLE LXIX—cont.

Non-food grains.	Size group.	Salem.			Dharmapuri.			Coimbatore.			Tiruchirappalli.			Madurai.		
		(1)	(2)	(3)	Irrigated.	Unirrigated.	(5)	(6)	(7)	(8)	Irrigated.	Unirrigated.	(9)	(10)	(11)	(12)
		PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Coconut, Gingly and Oil seeds.	1-2	17-78	13-36		15-48	7-94	6-70	6-06			19-22	16-23	21-07	14-91		
	3-4	41-24	40-00		31-23	33-26	25-07	23-12			32-23	30-68	34-55	34-53		
	5-8	38-05	45-56		52-35	55-97	63-20	64-30			43-59	47-48	40-14	44-98		
Total area (Hectares)		2-33	1-08		0-94	2-83	6-03	6-52			4-96	5-61	3-64	5-58		
Coffee and Tea	1-2	2,694	9,776		1,880	17,233	11,893	11,358			3,029	31,445	2,108	15,862		
	3-4	24-35	51-24		52-28	..	0-67	0-02			58-72	7-71	26-12	3-68		
	5-8	43-68	3-38		27-70	53-85	9-26	0-08			29-37	75-37	33-08	9-31		
Total area (Hectares)		32-07	13-94		20-02	42-03	39-24	0-29			11-91	16-51	34-51	27-63		
Others	1-2	..	31-44		..	4-12	50-83	99-61			..	0-41	6-29	59-38		
	3-4	28	3,871		6	4	235	11,321			6	18	18	8,569		
	5-8	17-25	13-96		19-15	6-56	6-55	1-98			25-18	10-96	10-03	15-73		
Total area (Hectares)		48-61	46-62		37-72	30-09	25-65	15-51			36-79	29-30	35-40	31-69		
Total non-food grains	1-2	33-53	37-88		42-37	59-09	60-54	71-62			35-92	55-40	40-92	43-50		
	3-4	0-71	1-54		0-70	3-06	7-26	10-99			2-11	4-34	4-65	9-08		
	5-8	16,159	4,207		1,104	2,440	12,320	5,103			3,435	28,273	4,654	7,951		
Total area (Hectares)		17-10	13-77		12-72	8-46	6-07	5-68			22-93	15-26	16-45	16-45		
Total non-food grains	1-2	45-44	42-04		35-56	35-94	27-12	25-09			37-70	33-80	35-35	34-42		
	3-4	36-58	41-70		50-64	53-30	61-55	56-17			37-25	47-74	46-01	44-26		
	5-8	0-88	2-49		1-08	2-31	5-26	13-06			2-12	3-20	3-09	5-87		
Total area (Hectares)		44,438	128,808		13,392	74,656	134,956	109,647			59,947	163,630	61,364	156,466		

32. It is seen that the proportion of irrigated and unirrigated area under condiments, orchards and vegetables in the size group 5-8, is the highest in all the districts except for the irrigated crops in Salem and Tiruchirappalli. The second largest area under both irrigated and unirrigated is in the size group 3-4 in Dharmapuri and Madurai. In Coimbatore, the second largest irrigated proportion is in the size group 3-4 and the unirrigated proportion in the size group 9-12. The second largest proportion of the irrigated and unirrigated area is in the size groups 5-8 and 3-4 in Tiruchirappalli and Salem respectively.

33. The third largest proportion in both irrigated and unirrigated area is in the size group 1-2 in all the districts except for the unirrigated items in Coimbatore and Madurai where it is in the size groups 3-4 and 9-12 respectively. The size group 9-12 represents the lowest proportion in irrigated and unirrigated area in all the districts, except in Coimbatore and Madurai where the unirrigated proportion is the lowest in the size group 1-2.

34. The highest proportions under cotton irrigated and unirrigated are in the size group 3-4 in Salem and in the size group 5-8 in the remaining districts while the lowest proportion is located in the size group 9-12 in all the districts except Coimbatore where it is located in the size group 1-2.

35. The second and the third largest proportions are located in the size groups 3-4 and 1-2 respectively in all the districts except Coimbatore and Salem. In Salem, the size groups 5-8 and 1-2 represent the second and third largest proportions respectively and in Coimbatore they are in the size groups 3-4 and 9-12.

36. The unirrigated area under sugarcane is not very significant, being less than 375 hectares in all the districts. The irrigated area is highly significant in the size groups 5-8 in all the districts except in Salem and Tiruchirappalli where it is in the size group 3-4.

37. The second largest proportion of area is found in the size group 3-4 in Dharmapuri, Coimbatore and Madurai while it is in the size group 5-8 in Salem and Tiruchirappalli. The size group 1-2 represents the third largest area, while the size group 9-12 represents the lowest area in all the districts.

38. The area under groundnut irrigated is less significant when compared to the unirrigated area. The largest proportions of irrigated and unirrigated area are found in the size group 5-8 in all the districts except Salem and Tiruchirappalli. In Salem they are located in the size group 3-4. In Tiruchirappalli the largest proportion of irrigated area is in the size group 3-4 and the largest proportion of unirrigated area is in the size group 5-8.

39. The second largest area is accommodated in the size group 3-4 in all the districts except Tiruchirappalli and Salem. In Salem, it is accommodated in the size group 5-8 and in Tiruchirappalli it is located in the size group 5-8 under the irrigated crop and in the size group 3-4 under the unirrigated crops. The lowest proportions are located in the size group 9-12 in all the districts.

40. Thus about 80 per cent of the irrigated and unirrigated area under the crop is in the size groups 3-4 and 5-8, leaving only about 20 per cent shared between the size groups 1-2 and 9-12.

41. The highest proportions of area under coconut, gingelly and other oil seeds, under irrigated and unirrigated cultivation, are found in the size group 5-8 in all the districts except Salem where the irrigated is the highest in the size group 3-4 and the unirrigated in the size group 5-8. The second largest proportion is in the size group 3-4 in all districts except Salem. The third largest and the lowest proportions are located in the size groups 1-2 and 9-12 in all the districts.

42. It is observed that about 85 per cent of the total cropped area is accommodated in the size groups 3-4 and 5-8 in Salem, Dharmapuri and Coimbatore while only about 80 per cent of the cropped area is accounted for under the size groups 3-4 and 5-8 in Tiruchirappalli and Madurai.

43. The area under coffee and tea is not significant in Dharmapuri and Tiruchirappalli and so also the area under irrigated cultivation in Salem and Madurai. There is considerable coverage of area under unirrigated cultivation in Salem, Coimbatore and Madurai. The highest proportion of the unirrigated area is found in the size group 1-2 and the second largest in the size group 9-12 in Salem, while the highest proportions are located in the size group 9-12 and the second largest in the size group 5-8 in Coimbatore and Madurai.

44. About 20 per cent of area under "others" is shared between the size groups 1-2 and 9-12 in Tiruchirappalli and Madurai and about 10 per cent in Coimbatore. In Salem and Dharmapuri, the share of irrigated area is about 18 per cent and 20 per cent respectively and unirrigated area is about 15 per cent in Salem and 10 per cent in Dharmapuri. The size groups 3-4 and 5-8 share more than 80 per cent of the area in all the districts except Tiruchirappalli and Madurai where the coverage is only about 70 per cent of the total area under these crops.

45. The analysis of cropping pattern of non-food grains under all the size groups has brought out the trend that the proportion of irrigated area in the size groups 1-2 and 3-4 put together is higher than the corresponding proportion of unirrigated area uniformly in all the districts, while the proportion of unirrigated area is higher than that of irrigated area under the size groups 5-8 and 9-12 put together in all the districts.

IV. SAMPLE SURVEY RESULTS.

With regard to the Sample Survey results, in as much as the Sample Survey was a stop gap arrangement in the two districts of Kanyakumari and the Nilgiris where the records were not in the pattern of the rest of the districts and did not lend themselves to retabulation, and in as much as the records are being brought into the pattern of rest of the districts and as the work will be done on complete enumeration basis in the next census, no detailed analysis is attempted here. The holdingwise distribution in respect of these two districts is given in Section III of Volume II. The general trend reflects smaller holdings and multi-cropping pattern in the case of Kanyakumari district and larger holdings and mono-cropping (especially plantation) in the Nilgiris district.

CHAPTER VII.

PROBLEMS AND PERSPECTIVE.

The idea of planning and a planned economy is accepted now by almost all. For "Laissez-faire" that ruled the minds of the people and governed the economic policies of the State for a long time has failed to deliver the goods and, as a consequence, a swing has set in towards planning under State auspices. Planning envisages sufficiency of production, stability of economic life and equality of distribution. In an era of planned economic development, there is need for reliable data made available at the appropriate time to help in evolving hypotheses, in formulating policies, in evaluating achievements and in forecasting, projection and prophecy. Accurate and carefully classified data create the base for all reforms.

2. The economy is still largely agro-based. What is good for agriculture must be good for the economy as a whole. As the development of the economy is entwined with the progress on the agricultural front, there is greater demand to elicit information on the agricultural sector than on any other sector of the economy.

3. Agricultural statistics which are available elsewhere, originated as a bye-product of administrative activities like collection of land revenue or from the need for information arising due to emergent conditions like drought. These are useful at best to describe what was observed and are not devoid of gaps. These are also not susceptible for lower levels of area planning on which much emphasis is being laid now. With the attainment of independence and in the wake of an era of perspective planning, the need for detailed information, covering diagnostic and operational aspects besides descriptive aspects, has been more keenly felt. The Agricultural Census carried out in the year 1970-71, is a step in this direction.

4. The Agricultural Census 1970-71 sponsored by the Food and Agriculture Organisation of the United Nations is the fourth in a series of National Agricultural Censuses taken all over the world in and around the same year within the frame-work of uniform concepts and definitions and a common programme of item coverage and tabulation. In India, this is the third in the series after 1950 and 1960 censuses, wherein data required by the World Agricultural Census were collected through sample surveys carried out by the National Sample Survey Organisation as part of its socio-economic rounds, which gave estimates for the country as a whole and for States. These estimates were of limited value for micro-level planning. In order to overcome these shortcomings and also in view of the new strategy for agricultural development, the Agricultural Census 1970-71 has been carried out on a complete enumeration basis for the first time in the country and Tamil Nadu.

5. This has been one of the biggest ventures in agricultural statistics involving collection of data on more than 50 lakhs holdings in Tamil Nadu. The various problems that cropped up while organising this first ever census in Tamil Nadu are briefly mentioned in the following paragraphs.

6. The magnitude of work involved in the conduct of the Agricultural Census in Tamil Nadu was immense. The staff required for the Agricultural Census at the district level for field and supervisory work and at headquarters for organisational, administrative, scrutiny and tabulation work had also been fairly large. These had necessitated creation of a new department called the Directorate of Agricultural Census by Government of Tamil Nadu after careful consideration of all aspects involved.

7. The work involved in carrying out the Agricultural Census was of a specialised nature requiring the co-ordinated efforts of the officers and staff of Revenue, Survey and Settlement and Statistical Departments. In view of this imperative need, the nucleus census unit had to be constituted by drafting experienced officers and staff from these three departments.

8. This being the first Agricultural Census to be carried out on complete enumeration basis, a certain amount of difficulty was experienced in estimating the total number of schedules required for the entire enumeration work. About 80 lakhs copies of schedules were got printed through a private printing press and supplied in a three-phased programme conforming to the time schedule fixed. Eighteen thousand copies of instruction booklets were also got printed in Tamil and English for the use of primary and supervisory staff.

9. The Agricultural Census 1970-71 being the first of its kind in Tamil Nadu, posed certain problems which had to be looked into before the main operations were launched on a State-wide basis. The ability of the village revenue officials to execute the retabulation work with perfection, the nature of problems that would be encountered in this process and the time factor involved were some of the crucial points which required pre-testing and careful examination. With this objective in view, a pilot census was undertaken in three representative regions preceding the main Agricultural Census. The pilot census provided valuable experience with regard to the problems likely to be met within the actual tabulation of data and also gave an indication of the time required for retabulation operations. The difficulties experienced by the village revenue officials in apprehending the work in the right perspective were carefully analysed and as a result, a compendium of instructions was brought out which was very helpful to the field staff and supervisory staff at the time of complete enumeration of operational holdings.

10. The operational holding constituted the primary unit for data collection both under census in eleven districts and sample survey in two districts. The Agricultural Census required collection of data relating to each holding which was the basic unit of decision making. A distinction was also to be made between operational holdings and ownership holdings. The census operations centred around the operational holding. The village revenue officials who were all along familiar with individual fields (Survey number and sub-division number) had to be made fully aware of the importance of the "Operational" holding concept. A clear understanding of this basic concept as also of other concepts involved both in the census and sample survey was the prime objective of the training programme launched under the Agricultural Census operations. That hundreds of training classes were conducted at district, taluk and firka levels for realisation of this objective was a testimony to the paramount importance attached to this part of the census work. Intensive training of the staff at various levels went a long way in making the census a systematic and successful operation. Considering the newness of the "Operational" holding concept, it is a tribute to the quality of the Karnams and field staff that so much has been so accurately achieved. However, a methodological shortcoming is that the "Operational" holding does not yet completely find a place in records. While in some districts like Thanjavur, the statutory record of tenancy rights was complete, in other districts the rather incomplete column 6A of the "Adangal" supplemented by the local knowledge of the Karnam had to be relied upon. The assurance that the information was confidential helped very much in eliciting details of tenancies. But it is expected that the complete statutory record of tenancies which will be available to the next census will be very useful then. Also, with the fast pace of implementation of land reforms and the recent Bill for tenants' pre-emptive purchase of land from owners, it is possible that the distinction between the "Operational" and "Ownership" holding may largely disappear in future. This is an aspect whose trend would prove of fruitful separate study.

11. As the village land records formed the base for Agricultural Census, the village Karnams had a pivotal role in this complex task. The village Karnam was generally in charge of one village. A considerable number of village Karnams had two or three villages under their jurisdiction. Apart from his normal functions, the village Karnam had to attend to multifarious

works relating to various departments since he was at the base of the hierarchy of administration. These were bound to distract the village Karnam from devoting as much attention as needed for recording area and crop statistics. Some of the primary reporting agencies entertained a conventional bias towards recording area statistics in the basic records. The problem of organisation of an intensive supervision assumed greater importance in this context. An elaborate, supervisory system bringing within its fold the officials of Revenue, Statistical and Agricultural Census Departments, under the direct supervision of the State Agricultural Census Commissioner, was arranged which ensured accuracy and correctness in the transfer of data, classification and aggregation at the time of retabulation work. This arrangement was further supplemented by a thorough, systematic and careful scrutiny of all filled-in-schedules without exception, undertaken at the headquarters office. For future census, the question of an independent full time enumerator appears to be worth considering. It is true that cross checking with the village records at the Karnam, especially for area figures, etc., may still have to be done. But the cost versus quality aspects of such a set up require separate in-depth study. (Even in the two districts done on a sample survey basis this time, the basic records are being built up and will be available for complete enumeration for future census.)

12. A Statewide complex operation like the Agricultural Census, involving combined efforts of multitude of staff and officials from various departments, for primary and supervisory work, required a well-knit plan, proper direction and successful co-ordination. The field work relating to census was the responsibility of the field level agencies of Revenue Department while their work had to be supervised by the supervisory officers of both Revenue and Statistics Departments. The numerous functionaries engaged in this time bound operation were to be properly organised and controlled so that the operation might not go astray or criss-cross. This problem was tackled by setting up co-ordination committees at taluk, district and State levels. These co-ordination committees met at regular intervals for discussing and solving problems as and when they arose besides critically reviewing the progress of work. Their experience will lead to valuable improvements in planning for future censuses.

13. The first phase of agricultural census work involving collection of data was followed by the second phase consisting of tabulation and consolidation of data and preparation of required tables at various levels. The suitability of manual and mechanical tabulation for the second phase of work was examined in detail and Tamil Nadu opted for mechanical tabulation for speed, efficiency, reliability and economy. The mechanical tabulation involved installation of sophisticated card punches and verifiers and use of the electronic computer, all on rental basis. The punch machines had to be installed in time to cope up with the flow of work. An air-conditioned store room was also arranged for storing the punch cards and the magnetic tape files to which data from the punch cards were transferred. Being the first time that data of this nature was processed mechanically, some problems were encountered. Since the punching and verification work was done in co-ordination with the scrutiny and codification of schedules and so also the processing on electronic computer in co-ordination with the punch unit, a system for ensuring accuracy check on records handled was found very essential. This was done by proper maintenance of various registers on inward and outward flow of schedules and punch cards. By this arrangement for accuracy check, errors due to omissions were kept at a negligibly lower level. In an operation of this magnitude it was only natural that there were teething troubles initially and the percentage of rejects, and the necessity for repunching, was a little high when the new staff were still on the learning curve. But once this period was over, and the staff had settled down, they maintained a good flow of work in quantity and quality—thus, enabling the full accuracy and speed advantage of a mechanised tabulation system to be reaped.

14. The problems faced initially by the punch unit and certain difficulties experienced at the time of processing on computer were already discussed in detail in Chapter V. It may, however, be added here that for the type of job involved the computer hardware was not completely ideal. Since a considerable portion of the job was input and editing, the lack of buffer and multi-programming facilities on the second generation computer was felt. But this State decided to go in for a type of processing which, though it would involve slightly more computer time, would give as the end product a village-wise data bank on tape to facilitate any future analysis and also to constitute a bench mark. In future census, the increasing availability of third generation machines with their considerably superior attributes and performance would be welcome.

15. The Agricultural Census 1970-71 was a massive effort for collection of data and an exacting experience in scrutiny, tabulation and processing of records for as many as 5.3 million operational holdings in Tamil Nadu which became fruitful by the generation of six tables at district levels giving the following particulars on operational holdings :

Table I .. Number of operational holdings and area operated by size class of operational holdings.

Table II .. Number of operational holdings reporting irrigation (and also unirrigated) and the area irrigated (and unirrigated) by size class of operational holdings.

Table III .. Number and area of holdings by tenure and by size of holdings.

Table IV .. Area under different land uses by size class of holdings.

Table V .. Source-wise area irrigated by size class of holdings.

Table VI .. Area under crops by size class of holdings.

The processing of data on the electronic computer gives a very high degree of accuracy for these tables. (For a very few individual villages, however, the necessity to restrict the editing and re-editing process to a limited number of runs gives a larger margin of error—an error that becomes negligible when aggregating for the district.)

16. The Agricultural Census results have opened up new vistas in agricultural knowledge at the operational level. The census has caused a definite improvement in agricultural statistics facilitating plan formulation at desired levels. As an additional use of the data gathered to help any further micro-level analysis and to help other end users of the data, similar tables for blocks, taluks and for certain meaningful area groupings (such as I.A.D.P., I.A.A.P., Drought prone areas, Tribal areas, etc.), have been created on the computer. This processing has also provided a village-wise data bank on magnetic tapes for any future use, either as a bench mark or for further analysis.

17. A striking feature of the Agricultural Census figures is their broad agreement with the State Season and Crop Report figures for important categories of land utilisation and crops. Checking the minor differences observed here and there and reasons therefor are to form a separate piece of work in the post census period. This process could yield useful information on the nature of some biases in routine reporting.

18. The Agricultural Census 1970-71 has thrown out useful information on the basic structure and characteristics of the operational holdings, thereby removing the age-long gap in agricultural statistics. One has to develop suitable methods for the effective utilisation of this mass of statistics with the objective of economic derivations. In fact, Government of India have suggested that an economic analysis of the census data covering a wide range

of problems should be undertaken. The information on the operational holdings made available for the first time in the country provides plentiful scope for a wide analysis which will pave a sound and realistic base for agricultural planning aimed at farm efficiency. (The analysis in Chapter VI is mainly statistical, since an economic analysis would require other data not forming a part of this census. Some lines are indicated below.)

19. Sufficient expertise and knowledge has been gained by the conduct of the present Agricultural Census. It is worthwhile to utilise the services of the trained staff for undertaking studies relating to important aspects of agricultural holdings vis-a-vis agricultural economy during the inter-census period.

20. The number of individual and joint holdings and area covered by them are given size-classwise in Table I of Volume II of this report. These particulars may be analysed for identifying the popular size of holding and finding out the relationship of size with the nature of output and many related factors pertaining to production economy. A comprehensive study of the pattern of distribution between geographical divisions of either villages, blocks, or taluks may indicate how the pattern varies depending on certain factors or problems peculiar to different areas. A further study of these features may throw light on the nature of impact of planning and land policy and also help in planning future courses of action.

21. The distribution of number of holdings and operated area, classified as wholly irrigated, partly irrigated and wholly unirrigated under twelve size classes is shown in Table II of Volume II. A closer examination of these details will help in identifying the size classes under which maximum area is wholly irrigated, wholly unirrigated or partly irrigated. The degree of impact of irrigation plans may be measured with reference to the potentials created in the area. The situation obtaining in one block may be compared with that of other blocks so as to find out the trends of efficiency or otherwise between blocks with reference to utilisation of irrigation potential created, water management, etc. It may be easier to evolve suitable irrigation planning on right lines based on the lessons drawn out of such studies.

22. The particulars on distribution of owned and self-operated holdings, owner-cum-tenant operated holdings and tenant operated holdings are furnished size-classwise in Table III of Volume II. The table also contains information on the different modes of rental paid by tenant cultivators and area operated by them. The data on owned and self operated holdings will be useful for undertaking studies in production efficiency between size classes of operational holdings. The general hypothesis that gradation status of tenures in the operational holdings has a corresponding impact on the farm efficiency may also be examined.

23. The magnitude of the proportionate share of area sown, current fallows, old fallows and other categories of land utilisation within the structure of the operated area may be assessed from Table IV of Volume II. Based on this assessment, further studies relating to disproportionate distribution of area and the reasons therefor may be undertaken.

24. In Table V of Volume II, information is given on the distribution of net irrigated area sourcewise as well as size-classwise. In as much as irrigation plays a very dominant role in increasing agricultural productivity, it may be necessary to examine the performance of different sources of irrigation. Short-term studies relating to problems of water management and minor irrigation sources and also studies on optimum utilisation of private and Government sources may be helpful in formulation of irrigation policies.

25. Size-classwise information on gross cropped area, irrigated area and unirrigated area for food and non-food crops is given in Table VI of Volume II. Utilising these basic data, studies relating to measurement of

output trends of important crops, location of viable units, strategic areas and groupings of farmers with reference to cropping intensity, nature of response to varietal revolution under different size class of holdings and tenures may be carried out to arrive at useful findings.

26. The Agricultural Census has been carried out utilising the services of village Karnams, a non-technical agency, for compilation of census data. It may therefore be necessary to evaluate the quality of the performance of these Karnams in so far as it related to understanding of various concepts and definitions involved. Special surveys may also be conducted to update the census results.

27. The large number of small farmers form a very significant part from the point of view of agricultural production. The participation of these farmers in agricultural programmes based on new technologies is essential in view of the far reaching socio-economic implications. Moreover, the possibility of increasing per acre output of small farmers is greater than that of the big farmers because of easy availability of labour. The problems of the small farmers have to be correctly assessed with a view to introduce adequate development measures, and for this also the data would prove useful.

28. Numerous and complex are the problems, so closely inter-related, that failure on one will lessen the effectiveness of advances made on others. A close study of these problems at the village level by selecting representative operational holdings under various size classes and tenures may be necessary to find out a definite base for developing suitable timely solutions required for policy decisions. Rapid growth depends upon qualified policy decisions made in respect of a multitude of policy variables. The formulation of sound agricultural development strategies requires careful examination in identifying variables that are strategic now and the ones that will become so at different points of time in future.

29. The World Agricultural Census designed by the Food and Agriculture Organisation of the United Nations aims at obtaining from various countries inter-nationally comparable information on the structure of agricultural holdings. The Agricultural Census carried out in Tamil Nadu in 1970-71 forms part of an All India Programme towards this end. The present census being the first of its kind in Tamil Nadu and India, should be followed by a series of censuses at regular intervals especially in view of the planning needs and the strategy for agricultural development. The Agricultural Census gives results which are useful in the preparation of meaningful and effective agricultural development plans. There is a good case for undertaking quinquennial Agricultural Census and for linking up Agricultural Census operations with the formulation of Five-Year Plans.



ANNEXURES

ANNEXURE 1.

POPULATION IN TAMIL NADU ACCORDING TO CENSUS OF INDIA, 1971.

<i>District.</i>	<i>Area in square kilometres.</i>	<i>Rural.</i>	<i>Urban.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)
1 Madras	128.0	..	2,169,449	2,469,449
2 Chingleput	7,920.0	1,896,909	1,010,690	2,907,599
3 South Arcot	10,898.0	3,104,726	512,997	3,617,723
4 North Arcot	12,265.0	2,972,702	783,095	3,755,797
5 Salem	8,643.0	2,197,234	795,382	2,992,616
6 Coimbatore	15,673.0	2,816,936	1,556,242	4,373,178
7 Tiruchirappalli	14,291.0	2,991,808	857,008	3,848,816
8 Thanjavur	9,735.0	3,032,694	788,038	3,840,732
9 Madurai	12,629.0	2,614,003	1,324,194	3,938,197
10 Ramanathapuram	12,578.0	2,113,545	746,662	2,860,207
11 Tirunelveli	11,433.0	2,171,019	1,029,496	3,200,515
12 Kanyakumari	1,684.0	1,018,144	204,405	1,222,549
13 The Nilgiris	2,549.0	250,780	243,235	494,015
14 Dharmapuri	9,643.0	1,533,834	143,941	1,677,775
State	130,069.0	28,734,334	12,464,834	41,199,168

ANNEXURE 2.

PRESSURE OF POPULATION ON LAND IN TAMIL NADU.

<i>Particulars.</i>	1960-61 (in '000 hectares).	1970-71 (in '000 hectares).
(1)	(2)	(3)
I Cultivable Area—		
(i) Comprising six classifications of land—		
1 Net area sown	5,997	6,169
2 Culturable waste	706	507
3 Permanent pastures and other grazing lands	363	231
4 Land under miscellaneous tree crops and groves not included in the net area sown.	246	226
5 Current fallows	974	965
6 Other fallow lands	623	573
Total	8,999	8,671
(ii) Comprising four classifications of land—		
1 Net area sown	5,997	6,169
2 Culturable waste	706	507
3 Current fallows	974	965
4 Other fallow lands	623	573
Total	8,300	8,214
II Rural Population (in thousands)	24,696	28,734
III Cultivable area per head of rural population—		
	<i>Hectare.</i>	<i>Hectare.</i>
Item I (i) divided by II	0.36	0.30
Item I (ii) divided by II	0.34	0.29

ANNEXURE 3.

MAJOR AND MINOR SYSTEMS OF IRRIGATION IN
TAMIL NADU

<i>Serial number.</i>	<i>Name of the Scheme.</i>	<i>Area irrigated (in lakh hectares).</i>
(1)	(2)	(3)
1. ¹	Cauvery Delta System	3.78
2. ²	Cauvery Mettur Project	1.04
3. ³	Parambikulam Aliyar Project	0.97
4. ⁴	Lower Bhavani Reservoir	0.84
5. ⁵	Pेरியர் System	0.82
6. ⁶	Lower Coleroon Anaicut System	0.55
7. ⁷	Kodayar Project	0.48
8. ⁸	Palar Anaicut System	0.45
9. ⁹	Modernising Vaigai Channels	0.45
10. ¹⁰	Manimuthal Reservoir Project	0.42
11. ¹¹	Kattalai Scheme	0.34
12.	Amravathi Reservoir project	0.22
13.	Shattathope Anaicut System	0.20
14.	Chittar Pattanamkal Scheme	0.19
15.	Srivaikuntam Anaicut System	0.19
16.	Mottur Canals Scheme	0.18
17.	Cheyyar Anaicut System	0.15
18.	Tirukoilur Anaicut System	0.14
19.	Merudur Anaicut System	0.14
20.	Poinoy Anaicut System	0.11
21.	Thadapalli Channel System	0.10
22.	Kalingarayan Channel System	0.10
23.	Chembarambakkam Tank system	0.09
24.	Toludur Reservoir System	0.09
25.	Vaigai Reservoir Project	0.09
26.	Pullambadi Canal Scheme	0.09
27.	Sathanur Reservoir Project	0.09
28.	New Kattalai High level Canal Scheme	0.09
29.	Polandurai Anaicut System	0.06
30.	Vridhachalam Anaicut System	0.05
31.	Nandiyar Channel System	0.04
32.	Madras Water Supply and Irrigation System	0.04
33.	Krishnagiri Reservoir Project	0.04
34.	Gatamanadhi Scheme	0.03

ANNEXURE 3—cont.

MAJOR AND MINOR SYSTEMS OF IRRIGATION IN
TAMIL NADU

Serial number.	Name of the Scheme.	Area irrigated (in lakh hectares).
(1)	(2)	(3)
35. Mohmathur Anaicut System	0.02
36. Arakkankottah Channel System	0.02
37. Barur Tank System	0.02
38. Araniar Project	0.02
39. Neyyar Project	0.02
40. Gomukhi Project	0.02
41. Manjalar Project	0.02
42. Manimukthanadhi Project	0.02
43. Vidur Reservoir Project	0.01
44. Vallur Anaicut System	0.01
45. Ramanadhi Scheme	0.01
TOTAL		12.65

ANNEXURE 4.

STATEMENT SHOWING THE VARIOUS IRRIGATIONAL SCHEMES COMPLETED DURING PLAN PERIODS.

Name of Scheme.	District benefited.	Plan work commenced.	Area benefited (in '000 hectares).	
			New/Gap.	Stabilisation.
(1)	(2)	(3)	(4)	(5)
FIRST FIVE-YEAR PLAN.				
1 Lower Bhavani Project ..	Coimbatore, Tiruchirappalli.	I	83.77	..
2 Perunthani Reservoir (Kodayar).	Kanyakumari ..	I	..	47.52
3 Amaravathy Reservoir ..	Coimbatore ..	I	8.70	12.95
4 Mottur Canals	Coimbatore, Salem ..	I	18.21	..
5 Manimuthar Reservoir ..	Tirunelveli	I	8.09	33.59
6 Vaigai Reservoir ..	Madurai, Ramanathapuram.	I	9.24	..
7 Krishnagiri Reservoir ..	Dharmapuri	I	3.64	..
8 Sathanur Reservoir I Stage.	South Arcot, North Arcot.	I	8.50	..
9 Araniar	Chingleput	I	..	2.46
	TOTAL ..		140.15	96.52
SECOND FIVE-YEAR PLAN.				
1 New Kattalai High level Canal.	Tiruchirappalli, Thanjavur.	II	8.34	..
2 Pullambadi Canal ..	Tiruchirappalli ..	II	8.95	..
3 Vidur Reservoir	South Arcot, Pondicherry (Union Territory).	II	1.29*	..
4 Neyyar Project II Stage ..	Kanyakumari	II	2.35	..
	TOTAL ..		20.93	..
THIRD FIVE-YEAR PLAN.				
1 Improvements to Palar Anicut.	North Arcot, Chingleput.	III	1.33	..
2 Sathanur Reservoir II Stage.	South Arcot	III	2.02	..
3 Gomukhi Nadhi Project ..	South Arcot	III	2.02	..
4 Manjaral	Madurai	Non-Plan Project.	0.81	1.27
	TOTAL ..		6.18	1.27
ANNUAL PLAN 1966-67.				
1 Manimukthanathi ..	South Arcot	Annual Plan.	1.62	0.10
	TOTAL ..		1.62	0.10
	Grand total ..		168.88	97.89

* Includes 435 hectares in Pondicherry.

ANNEXURE 5.

STATEMENT SHOWING THE VARIOUS IRRIGATIONAL SCHEMES UNDER EXECUTION.

Name of Scheme.	District benefited.	Plan work commenced.	Area to be benefited (in ,000 hectares.)	
			New/Cap.	Stabilisation.
(1)	(2)	(3)	(4)	(5)
MAJOR SCHEMES:				
1 Parambikulam Aliyar Project.	Coimbatore	.. II	97-12	..
2 Chittar Pattanamkal Scheme.	Tirunelveli, Kanyakumari.	III	13-08	5-94
		TOTAL ..	110-20	5-94
MEDIUM SCHEMES:				
1 Ramanadhi	Tirunelveli	Annual Plan, 1966-67.	0-10	0-61
2 Gatananadhi	Tirunelveli	Annual Plan, 1966-67.	0-20	2-88
3 Modernising Vaigai Channel.	Madurai, Ramanathapuram.	Annual Plan, 1967-68.	5-63	38-80
4 Parappalar	Madurai	IV ..	0-36	0-58
5 Palar Porandalar	Madurai	IV ..	2-02	4-05
6 Chinnar	Dharmapuri	IV ..	0-76	1-06
7 Thendarai	North Arcot	IV ..	0-57	2-49
8 Renovation of Nandan channel	South Arcot, North Arcot	IV ..	0-11	2-01
9 Karuppanadhi	Tirunelveli	IV ..	1-16	3-51
10 Ponnaniar	Tiruchirappalli	IV ..	0-74	0-11
11 Pilavakkal	Ramanathapuram	IV ..	1-07	3-19
12 Marudhanadhi	Madurai	IV ..	0-94	0-92
		TOTAL ..	13-66	60-21
		Grand total ..	123-86	66-16

ANNEXURE 6.
STATEMENT SHOWING THE PARTICULARS OF CATTLE CENSUS (DISTRICTWISE) AS IN 1966.

Name of the district.	White cattle.		Black cattle.		Sheep.		Goats.		Pigs.		Other live-stock.		Total pounds.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1 Madras	24,981	20,079	705	5,272	1,109	166	52,372	55,666					
2 Chingleput	8,39,008	2,92,773	3,39,020	1,65,268	23,769	6,725	16,66,563	9,38,454					
3 South Arcot	13,99,528	1,96,208	4,22,307	4,03,906	98,377	3,739	25,23,255	3,70,744					
4 North Arcot	12,37,627	2,46,831	6,39,693	2,46,956	72,475	6,819	24,50,401	8,25,048					
5 Salem	7,45,286	2,05,984	5,71,920	3,60,340	55,523	5,663	19,44,716	7,78,865					
6 Dharmapuri	7,71,755	74,408	4,29,203	2,01,460	11,678	8,470	14,96,974	5,76,433					
7 Coimbatore	11,06,639	3,64,629	8,17,807	3,35,316	42,144	24,659	26,91,194	8,58,731					
8 Tiruchirappalli	11,46,219	3,08,606	9,66,265	6,25,861	61,784	6,439	31,14,184	15,01,684					
9 Thanjavur	12,37,724	3,52,402	2,18,141	4,35,055	8,790	2,619	22,64,731	10,53,550					
10 Madurai	9,61,394	2,68,870	6,41,621	3,31,923	40,383	21,272	22,65,403	12,01,253					
11 Ramanathapuram	6,24,370	1,28,812	7,77,082	2,89,280	16,960	11,593	18,48,097	10,80,684					
12 Tirunelveli	5,98,706	2,12,446	7,86,456	3,21,655	28,023	19,411	19,66,756	9,31,308					
13 The Nilgiris	49,329	17,552	6,326	5,127	287	529	79,160	40,571					
14 Kanyakumari	1,17,719	34,418	4,621	44,238	13,529	580	2,15,105	6,11,969					
Total	1,08,59,346	27,24,017	66,21,177	37,70,847	4,74,891	1,18,084	2,45,68,961	1,12,25,860					

ANNEXURE 7.

DISTRICTWISE NUMBER OF TOWNS, VILLAGES AND HAMLETS ELECTRIFIED
AS ON 1st MARCH 1973.

<i>Serial number.</i>	<i>District.</i>	<i>Number of towns, villages and hamlets electrified.</i>
(1)	(2)	(3)
1	Madras	1
2	Chingleput	3,919
3	South Arcot	3,772
4	North Arcot	3,927
5	Salem	4,660
6	Dharmapuri	3,842
7	Coimbatore	6,945
8	Tiruchirappalli	7,073
9	Thanjavur	5,821
10	Madurai	5,630
11	Ramanathapuram	6,496
12	Tirunelveli	4,665
13	The Nilgiris	871
14	Kanyakumari	2,440
	Total ..	60,062

ANNEXURE 8.

DISTRICTWISE NUMBER OF HARIJAN COLONIES ELECTRIFIED AS ON 1ST MARCH 1973.

<i>Serial number.</i>	<i>District.</i>	<i>Number of Harijan Colonies electrified.</i>
(1)	(2)	(3)
1	Chingleput	2,135
2	South Arcot	2,326
3	North Arcot	1,735
4	Salem	1,295
5	Dharmapuri	994
6	Coimbatore	2,779
7	Tiruchirappalli	2,258
8	Thanjavur	4,951
9	Madurai	1,687
10	Ramanathapuram	1,364
11	Tirunelveli	1,291
12	The Nilgiris	43
13	Kanyakumari	336
Total ..		23,194

ANNEXURE 9.

DISTRICTWISE NUMBER OF PUMPSETS CONNECTED AS ON 1ST MARCH 1973.

<i>Serial number.</i>	<i>District.</i>	<i>Number of pumpsets connected.</i>
(1)	(2)	(3)
1	Chingleput	55,170
2	South Arcot	65,373
3	North Arcot	1,16,117
4	Salem	75,372
5	Dharmapuri	21,376
6	Coinbatore	1,15,726
7	Tiruchirappalli	52,101
8	Thanjavur	9,201
9	Madurai	64,822
10	Ramanathapuram	28,358
11	Tirunelveli	39,549
12	The Nilgiris	165
13	Kanyakumari	743
Total ..		6,44,073

ANNEXURE 10.

MARKET COMMITTEES AND REGULATED MARKETS AS IN 1970-71.

<i>Name of the Market Committee with their headquarters.</i>	<i>Number of Regulated Markets.</i>	<i>Commodities notified.</i>
(1)	(2)	(3)
1 Chingleput Market Committee, Kancheepuram.	5	Groundnut.
2 South Arcot Market Committee, Cuddalore ..	12	Groundnut, Cotton, Gingelly, Paddy, Cashew, Blackgram, Greengram, Sugarcane and Jaggery.
3 North Arcot Market Committee, Vellore ..	14	Groundnut, Sugarcane, Jaggery and Paddy.
4 Dharmapuri Market Committee, Dharmapuri	3	Groundnut, Tamarind, Sugar- cane, Jaggery in all forms and Gingelly.
5 Coimbatore Market Committee, Coimbatore	19	Cotton, Groundnut, Tobacco, Turmeric, Maize, Sugar- cane and Jaggery.
6 Tiruchirappalli Market Committee, Tiruchirappalli	12	Groundnut, Tobacco, Gin- gelly, Cashew, Chillies, Paddy and Cane jaggery.
7 Thanjavur Market Committee, Thanjavur ..	23	Paddy, Groundnut, Coconut, Cashewnut, Blackgram, Greengram and Redgram.
8 Madurai Market Committee, Madurai ..	3	Chillies, Paddy, Cotton and Groundnut.
9 Ramanathapuram Market Committee, Virudhunagar.	9	Cotton, Groundnut, Chillies and Cane jaggery.
10 Tirunelveli Market Committee, Kollpatti ..	11	Cotton, Chillies, Coriander, Paddy and Groundnut.
11 Kanyakumari Market Committee, Nagercoil	5	Coconut, Cashewnut, Tama- rind, Palm jaggery, Tapioca and its products.

ANNEXURE 11.

QUANTITIES OF AGRICULTURAL PRODUCE MARKETED THROUGH REGULATED MARKETS.

Serial number.	Name of the Market Committee.	Notified crops and their arrivals during 1970-71.	Quantity in quintal.
(1)	(2)	(3)	(4)
1	Chingleput Market Committee	1 Groundnut ..	No arrivals.
2	South Arcot Market Committee	1 Groundnut ..	8,05,290
		2 Cotton ..	1,06,250
		3 Gingelly ..	94,650
		4 Paddy ..	1,38,940
		5 Cashew ..	4,750
3	North Arcot Market Committee	1 Groundnut ..	2,66,010
		2 Paddy ..	39,230
		3 Gingelly ..	1,310
		4 Jaggery ..	120
4	Dharmapuri Market Committee	1 Groundnut ..	} No arrivals.
		2 Gingelly ..	
		3 Tamarind ..	
		4 Cane Jaggery ..	
5	Coimbatore Market Committee	1 Cotton ..	1,453
		2 Groundnut ..	2,620
		3 Tobacco ..	..
		4 Turmeric ..	879
6	Tiruchirappalli Market Committee	1 Gingelly ..	22,486
		2 Cashew ..	20,117
		3 Groundnut ..	82,975
		4 Tobacco ..	..
		5 Paddy ..	70
		6 Sugarcane/Jaggery ..	..
		7 Chillies ..	..
7	Thanjavur Market Committee	1 Paddy ..	2,88,461
		2 Groundnut ..	62,04,734
		3 Cashew ..	..
		4 Coconut ..	..
8	Madurai Market Committee	1 Paddy ..	} No arrivals.
		2 Cotton ..	
		3 Groundnut ..	
		4 Chillies ..	
9	Ramanathapuram Market Committee	1 Chillies ..	1,455
		2 Cotton ..	166
		3 Groundnut (K) ..	1,606
		4 Cane Jaggery ..	..
10	Tirunelveli Market Committee	1 Cotton ..	2,979
		2 Chillies ..	294
		3 Coriander ..	522
		4 Paddy ..	..
		5 Groundnut ..	111
		6 Blackgram ..	222
11	Kanyakumari Market Committee	1 Coconut ..	} No arrivals.
		2 Cashew ..	
		3 Tamarind ..	
		4 Palm jaggery ..	
		5 Tapioca ..	

ANNEXURE 12.

நலமுறை சாகுபடி வாய்ப்புறு படிவம் 21
கிராமம்.....செலாவியத் துறை.....பரிர் நீர் பாப்ச்ப மொத்தம்.
பெயர்.....சுழலாளரின் பரிக்கா.முதல் போகம் பட்டது.
தகப்பனார்/கணவர் பெயர்.....கரினத்தின்.....வட்டம்.....சாகுபடி வாய்ப்பு IV
406-1

* பொருத்தமற்ற தீயெயின் மீது அடித்தல்
சோடியூட்டம், பகுதியாக இருப்பின் வேறு எந்த
கிராமம் அல்லது கிராமங்களில் சாகுபடி
வாய்ப்புறு நிலம் உள்ளது என்பதைப் பற்றிய
குறிப்பு.

I பரப்பு	அக. செ.	நில உபயோகமும் பரப்பும்	பாசன ஆதாரங்கள் III	பரிர் நீர் பாப்ச்ப மொத்தம்	சாகுபடி வாய்ப்பு IV
01 1. சொந்தமான தும சய சாகுபடி யிலும் உள்ள நிலம்.	—07	1. திரைச் சாகுபடி.(I) —	நிலம் பரப்புகை 15 1. கால் தரிசு (G) —	முதல் போகம் மொத்தம்	பரிர் நீர் பாப்ச்ப மொத்தம்.
2. பிறகுதலைய தலைக்குத் தலை அல்லது கார சாகுபடிக் காக ஏற்றுக் கொள்ளப்பட்டவை.	—	08 2. நடப்பாணை தரிசு (G) —	15 1. கால் தரிசு (G) —	இரண்டாம் போகம்.	பரிர் நீர் பாப்ச்ப மொத்தம்.
02 (அ) நிலையான தொலைக்கு.	—	09 3. 1 மற்றும் 2 இவைகளைக் கூடுதல்.	16 2. குளங்கள் (எரி வாகுதிகள் உட்பட).	இரண்டாம் போகம் மொத்தம்.	பரிர் நீர் பாப்ச்ப மொத்தம்.
03 (ஆ) நிலையான அளவு விளைச் சலுகு.	—	10 4. தரிசு நிலம் தலை மற்றும் சாகுபடி செய்யப் படாத நிலம் (அடக்கல் 17-A) (B + F) —	17 3. குழாய் கிணறுகள். —	மூன்றாம் போகம்.	பரிர் நீர் பாப்ச்ப மொத்தம்.
04 (இ) விளைக்கலி பங்கு.	—	11 5. இதர தரிசு நிலம் நடப்பாணை தரிசு நிலம் (H) —	18 4. கிணறுகள். —	மூன்றாம் போகம் மொத்தம்.	பரிர் நீர் பாப்ச்ப மொத்தம்.
05 (F) மற்றவை	—	12 6. சாகுபடிக்கு வாய்க்காது தரிசு நிலம் (D) —	19 5. மற்றய ஆதாரங்கள். —	22 மொத்தம் சாகுபடி செய்யப்பட்ட பரப்பு.	பரிர் நீர் பாப்ச்ப மொத்தம்.
06 மொத்தம் (1+2)	—	13 7. சாகுபடிக்கு தகுதியில்லாத நிலங்கள் (A, B & C) —	20 மொத்தம் நீர் பாப்ச்ப மொத்தம் (15 முதல் 19 வரை).	23 உணவு தானியக் களின் பரப்பு.	பரிர் நீர் பாப்ச்ப மொத்தம்.

மேற்படிவையாளரின் கையொழுத்து தேதியடன.

காப்பீத்தின் கையொழுத்து தேதியடன.

உணவு தானியங்கள்.

பெயர்.	குறியீடு.
தெல்	01
கோதுமை	02
பார்லி	03
கோளும்	04
கம்பு	05
கேழ்வாரகு	06
தீன	07
வரகு	08
சாமம்	09
மக்காச்சோளம்	10
மற்ற தானியங்கள்	11
கொண்டைக் கடலை	12
பச்சைப் பமிறு	13
துவரை	14
உளுந்து	15
கொள்ளு	16
மற்ற பருப்பு வகைகள்	17

உணவு தானியங்கள் அல்லாதவை.

பெயர்.	குறியீடு.
கவை தானியப் பொருள் கள் (வெல், மிளகாய், இஞ்சி, மிளகு, மஞ்சள் முதலியன)	18
கருப்பு	19
பழ வகைகள்	20
காய்கறிகள்	21
எள்ளு	22
நிலக்கடலை	23
கூட்டணக்கு	24
தேங்காய்	25
மற்ற எண்ணெய் வித்துக்கள்	26
பருத்தி	27
புகையிலை	28
ரப்பர்	29
காப்பி	30
தேயிலை	31
மற்றவை	32

ANNEXURE 13

தமிழ்நாடு விவசாயக் கணக்கீடு 1970—71.

விவரப் பட்டியல். I-0

மாவட்டம்.....

வட்டம்.....

(i) நடைமுறை கைப்பற்றுதாரரின் அடையாள விவரங்கள்.

1. கைப்பற்றுதாரரின் வரிசை எண்.
2. கைப்பற்றுதாரரின் பெயர்.
3. தகப்பனார்/தாயார்/கணவரின் பெயர்.
4. தகவல் தருவோரின் பெயரும், கைப்பற்றுதாரருக்கு உள்ள உறவும்.
5. வீட்டு கணக்கீட்டு எண்.
6. கரா/கிராமம்/நகர வட்டாரப் பகுதி.
7. கரா/கிராமம்/பகுதி/நகராட்சி.
8. வட்டம்.
9. மாவட்டம்.

(ii) கைப்பற்றின் வகைவாரியான இயல்புகள்.

1. குடும்பத்தின் அளவு.
2. கைப்பற்றுதாரருக்குச் சொந்தமான நிலம்.
3. குத்தகைக்கு விடப்பட்ட நிலம்.
4. குத்தகைக்கு எடுக்கப்பட்ட நிலம்.
5. இதர வகையில் கொண்டுள்ள நிலம்.
6. நடைமுறை சாகுபடி செய்த நிலம்.
7. கைப்பற்று நிலத்தின் வகை 1/2.
8. கைப்பற்று நிலத்திலுள்ள மொத்த சிறு நிலப்பகுதிகள்.
9. கைப்பற்றுதாரரின் தகுதி நிலை—தொழில் நிறுவனங்கள்/சூட்டு/சூட்டுறவு/அரசு நிறுவனங்கள்/பொறுப்புகங்கள்.
10. நிர்வகிக்கும் முறைமை.

(i) முழுவதும் கைப்பற்றுதாரரால்.

(ii) அமர்த்தப்பட்ட மேலாளரால்.

(iii) மற்றவர்களுடன் சேர்ந்து.

(iv) மற்றையோர் (விவரம் தருக.)

மற்றவர்களுடன் சேர்ந்து நிர்வகிக்கப்படுமானால் அவர்களின் பெயர்கள்.

1

2

3

4

நான்.

கர்ணம்/கிராம அதிகாரி/உதவியாளரின் கையொப்பம்.

ஷ்ரவாய் ஆய்வாளரின் கையொப்பம்.

மேற்பார்வையிடு அலுவலரின் கையொப்பம்.

ANNEXURE 14

தமிழ் நாடு விவசாயக் கணக்கிடு 1970-71.

விவரப் பட்டியல் 1.1

மாவட்டம்.....

வட்டம்.....

கீழ்க்கண்ட வட்டப்பகுதி நகராட்சி/நகரவசதிவட்டாரத்திலுள்ள.....

1970-71, பசலி ஆண்டில் மிகப் பகுதிகளான நடைமுறை வைப்பற்றிலுள்ள 50 நிஸ்பகுதி நிலங்களின் விவரங்கள்.

வாடகைக்குப் பயிரிட்ட பாப்பு (செனைகளில்).

பயன்படும் நிலப்பகுதி.

1. மதுரை	2. கரையாறு	3. கரையாறு	4. கரையாறு	5. கரையாறு	6. கரையாறு	7. கரையாறு	8. கரையாறு	9. கரையாறு	10. கரையாறு	11. கரையாறு	12. கரையாறு	13. கரையாறு	14. கரையாறு	15. கரையாறு	16. கரையாறு	17. கரையாறு	18. கரையாறு	19. கரையாறு
மதுரை	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு
மதுரை	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு
மதுரை	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு
மதுரை	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு
மதுரை	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு
மதுரை	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு
மதுரை	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு
மதுரை	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு	கரையாறு

நாள் :

மேற்பயர்வையிலும் அல்லலின் கையாப்பம்.

கள்ளம் கிராம அதிகாரி உதவியளவில் கையாப்பம்.

வருவாய் ஆய்வாளின் கையாப்பம்.

ANNEXURE 17

பசலி ஆண்டு 1380 (1970-71) விவசாயக் கணக்கிடு.

விவரப் பட்டியல் 1-3.

(நீலநீரி மாவட்டம்.)

1380-ஆம் பசலி ஆண்டில் பயிரிட்ட நிலப்பகுதி வாரியான பரப்பு.

வட்டம்

கர்ணத்தின் வட்டம்/பகுதி/நகராட்சி

நகரக் வட்டாரப் பகுதி/கிராமம்/கரா

பயிரிடும் பருவங்கள்
1-வது போகம் / 2-வது போகம்.

நிலப் பகுதி எண்.
சர்வே நெம்பர்.

இடம் குறிக்கும் குறியீடு.

பயிர் குறியீடு.

நீர்ப் பயிற்செய்தப் பரப்பு (ஏக்கரில்)

நீர்ப் பயிற்செய்தப் பரப்பு (ஏக்கரில்).

மரங்களின் எண்ணிக்கை.

மொத்தம் பயிரிடப் பரப்பு (ஏக்கரில்).

(1)

(2) (3)

(4)

(5)

(6)

(7)

(8)

(9)

வருவாய் ஆய்வாளரின் கையொப்பம்.

கிராம அதிகாரியின் கையொப்பம்/கர்ணம்.

மேற்பார்வை வய்டும் அதிகாரி.

தானிய வகைகளின் குறியீடு.

01 நெல்	17 நிலக்கடலை
02 கோதுமை	18 மற்றைய எண்ணெய் வித்துக்கள்
03 கேழ்வரகு	19 தேயிலை
04 சாமை	20 காபி
05 மற்ற தானியங்கள்	21 சிகரி
06 பயிறுகள்	22 இரப்பர்
07 மற்ற பருப்பு வகைகள்	23 கொய்னா
08 மிளகு, கொடி, படர்ந்துள்ள மரங்களின் எண்ணிக்கை	24 தேங்காய் (மரங்களின் எண்ணிக்கை).
09 இஞ்சி	25 பாக்கு
10 பூண்டு	26 முந்திரி (மரங்களின் எண்ணிக்கை).
11 மற்ற சுலா தானியப் பொருட்கள் (எலம், மஞ்சள் முதலியவை)	27 புளி (மரங்களின் எண்ணிக்கை).
12 கரும்பு	28 நீல கோந்து
13 மரவள்ளி	29 கோந்து மரம்
14 பழத் தோட்டங்கள்	30 Geranium
15 உருளைக் கிழங்கு	31 Ganj
16 மற்ற காய்கறிகள்	32 மற்ற விறகு மரங்கள்

ANNEXURE 18

தமிழ் நாடு விவசாயக் கணக்கீடு 1970-71 (பசலி 1380).

விவரப் பட்டியல் 1-3.

(கன்னியாகுமரி மாவட்டம்).

பொது உசாவு

1380-ஆம் ஆண்டு பசலியில் நிலப் பகுதி வாரியாகப் பயிரிட்டப் பரப்பும்
வித்திட்ட மரங்களின் எண்ணிக்கையும்.

பயிர் பருவங்கள் 1, 2 மற்றும் 3-வது போகப் பயிர்கள்.	நிலப் பகுதி எண்.	சாடுவ எண்.	குறி குறிப்பிடும் பகு.	பயிர் குறியீடு.	நீர்ப் பாம்ப்சப் பட்ட ரங்கள்.	நீர்ப் பரப்பிட்டபாத வகைராக்கின்.	மரங்களின் எண் னிக்கை.	மொத்தம் பயிரிட்ட பரப்பு (ஏக்கரில்)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

நிரந்தரமான அல்லது நீண்ட நான் பயிர்கள், நின்றுள்ள மரங்கள் அல்லது
கடந்த ஆண்டு அல்லது அதற்கு முன்பே நடப்பட்டவை ஆகியவை நடப்பாண்டு
பசலியில் முதல் போகப் பயிராகக் கணக்கிடப்பட வேண்டும்.

கிராம அதிகாரிகளிடமிருந்து தகவியாளரின் கையொப்பம்.

வருவாய் ஆய்வாளர் கையொப்பம்.

மேற்பார்வையிடும் அதிகாரி.

தானிய வகைகளின் குறியீடு

- 01 நெல்.
- 02 சோளம்.
- 03 இதர தானியங்கள்.
- 04 உளுந்து.
- 05 பச்சை பயிறு.
- 06 கொள்ளு.
- 07 துவரை.
- 08 மற்ற பருப்பு வகைகள்.
- 09 மிளகு.
- 10 இஞ்சி.
- 11 இதர சுவை தானியப் பொருள்கள்.
- 12 தேங்காய்.
- 13 பாக்கு.
- 14 முந்திரி (மரங்களின் எண்ணிக்கை).
- 15 மா மரங்களின் எண்ணிக்கை.
- 16 பலா மரங்களின் எண்ணிக்கை.
- 17 புளிய மரங்களின் எண்ணிக்கை.
- 18 மற்ற மரங்கள்.
- 19 வாழை.
- 20 வேர்க்கடலை.
- 21 மற்ற எண்ணெய் வித்துக்கள்.
- 22 காபி.
- 23 தேயிலை.
- 24 இரப்பர்.
- 25 பருத்தி.
- 26 மற்ற காய்கறிகள்.
- 27 மரவள்ளி.
- 28 சர்க்கரை வள்ளி.
- 29 கிழங்கு வகைகள்.
- 30 வெற்றிலை.
- 31 மற்றவை.

ANNEXURE 19

தமிழ்நாடு விவசாயக் கணக்கீடு 1970-71

விவரப் பட்டியல் 2-1

மாவட்டம்.....

கர்ணத்தின் வட்டம்/பகுதி/நகராட்சி.

நகரக் வட்டாரப் பகுதி/கிராமம்/கரா.

வட்டம்.....

நடைமுறை கைப்பற்று சாகுபடி செய்வோரின் அடையாள விவரங்கள்.

விவரமான உசாவு

1. கைப்பற்றுதாரரின் வரிசை எண்.
2. கைப்பற்றுதாரரின் பெயர்.
3. தகப்பனார் பெயர்.
4. தகவல் தருவோரின் பெயர் மற்றும் கைப்பற்றுதாரருக்குள்ள உறவு.
5. வீட்டு கணக்கெடுப்பு எண்.
6. கரா/கிராமம்/நகரக் வட்டாரம்.
7. வருவாய் கிராமம்/நகராட்சி/பகுதி.
8. தாலுகா/வட்டம்.
9. மாவட்டம்.
10. பயிரிட்ட நிலத்தின் அளவு.
11. கைப்பற்றின் வகை.

வருவாய் ஆய்வாளரின் கையொப்பம்.

கர்ணம்/கிராம அலுவலர்/உதவியாளரின் கையொப்பம்.

நாள்.

நாள்.

மேற்பார்வையிடும் அலுவலர்.

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2.10

Du

2

ANNEXURE-20—cont.
தமிழ்நாடு விவசாயக் கணக்கீடு 1970—71.
விவரமான உதவு.

விவரப் பட்டியல் 2-2 (எ)
மாடபட்டம்.....
வட்டம்.....

விவசாய ஆண்டு 1970—71-ல் தீர்ப்பாய்ச்சப்பட்ட பயிர்களின் பரப்பு மற்றும் இரகசயன உரம், பூச்சிக் கொல்லி மருந்துகளின் உபயோகம்.
கர்ணத்தில் வட்டம்பகுதி/கலாபட்டி.
நகரக வட்டாரப் பகுதியிலாமம்/கரா.

இனம்.	நெல்.			வானழை.			தென்னை.			பாங்கு.			மாவள்ளி.		
	உ.வி.ர.	உ.வ.	(2)	உ.வி.ர.	உ.வ.	(3)	உ.வி.ர.	உ.வ.	(4)	உ.வி.ர.	உ.வ.	(5)	உ.வி.ர.	உ.வ.	(6)

3 சாணம் போன்ற மண்ணை உரங்கள் மட்டும்.

(i) பண்ணை மண்ணை உரங்கள் நிலப்பரப்பு.
பண்ணை மண்ணை உரங்கள் அளவு (கி.கி.).

(ii) பண்ணைக்கு நிலப்பரப்பு.

பண்ணைக்கு அளவு (கி.கி.).

(iii) இதர உரங்கள் நிலப்பரப்பு.

இதர உரங்கள் அளவு (கி.கி.).

4 பூச்சி கொல்லி மருந்துகள் பயன்படுத்திய பரப்பு.

பூச்சி கொல்லி அளவு (கி.கி.).

வினாப் பட்டியல் 2-2 (எ)-தொடர்ச்சி.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
5	இராமன் உரம் உபயோகிக் கப் படாத நிலப்பரப்பு.											
6	மண்ணக உரம் உபயோகிக் கப் படாத நிலப்பரப்பு.											
7	பூச்சிக் கொல்லி உபயோகிக் கப் படாத நிலப்பரப்பு.											

ஒருவாய் ஆய்வுகளின் கையொப்பம்.

கீனம்/இராம அதிகாரி/உதவிமாளர் கையொப்பம்.

நாள்.

மேற்பார்வையிடும் அலுவலரின் கையொப்பம்.

உ. வி. ர. உயர்ந்த வீணாச்சல் சேம்.

உ. வ. உள்வாரி வகை.

ANNEXURE 21

தமிழ் நாடு விவசாயக் கணக்கீடு 1970-71.

விவரமான உதவு.

கர்ணத்தின் வட்டம்/பகுதி/நகராட்சி.
நகரக வட்டாஸப் பகுதி/விவரம/கர.விவரம் - ஆண்டு 1970-71-ல் நீர்ப்பாம்பட்டாத பயிரவனின் பரப்பு இரவாயன
உரம் மற்றும் பூச்சிக் கொல்லிகளின் உபயோகம்.

நீர்ப்பாம்பட்டாத பயிரகள்.

இலம்.	வாலுழ.			தெலினை.		பாக்கு.		மாவனின்.	
	உ.வி. (2)	உ.வி. (3)	உ.வி. (4)	உ.வி. (5)	உ.வி. (6)	உ.வி. (7)	உ.வி. (8)	உ.வி. (9)	உ.வி. (10) (11)

விவரப் பட்டியல் 2.2 (3).

1 நீர்ப் பாம்பட்டாத நிலப் பரப்பு;

2 இரவாயன உரத்தின் சாகு படி செய்ப்பட்ட நிலப் பரப்பு.

(i) நலச்சராக் கந்தகமில உரம் பயன்படுத்திய பரப்பு.

நலச்சராக் கந்தகமில உரம் பயன்படுத்திய அளவு (கி.கி.)

(ii) சிறுநீரகச் சேரிமரப் பொருள் உரம் பயன் படுத்திய பரப்பு.

சிறுநீரகச் சேரிமரப் பொருள் பயன்படுத்திய உர அளவு (கி.கி.)

விவரப் பட்டியல் 2-2 (பி)—தொடர்க்கி.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(iii) சுண்ணாம்பு நீற்றுதல் நவச்சார வெடிப்புப் உரம் பயன்படுத்திய பரப்பு.										
(iv) சுண்ணாம்பு நீற்றுதல் நவச்சார வெடிப்புப் உரம் பயன்படுத்திய அளவு (இ.கி.)										
(v) மேம்பட்ட எரியக மணிக் சத்தி உரம் பயன் படுத்திய பரப்பு.										
மேம்பட்ட எரியக. மணிக் சத்தி உரம் பயன் படுத்திய அளவு (இ.கி.)										
(vi) சாம்பலுப்பு சத்திரங்கள் பயன்படுத்திய பரப்பு.										
சாம்பலுப்பு சத்திரங்கள் பயன்படுத்திய அளவு (இ.கி.)										
(vii) கலப்பு உரம் பயன்படுத்திய பரப்பு.										
கலப்பு உரம் அளவு (இ.கி.)										
(viii) இதர உரங்களின் நிலப் பரப்பு										
இதர உரங்களின் அளவு (இ.கி.)										

ANNEXURE—21—cont.
தமிழ்நாடு விவசாயக் கணக்கிடு 1970—71
விவரமான உசாவு

விவரப் பட்டியல் 2:2 (பி)

கரிணத்தில் வட்டம்/பகுதி/நகராட்சி.
நகரக் வட்டாரப் பகுதி/கிராமம்/கரா.

விவசாய ஆண்டு 1970—71-ல் நீர்மயச்சுப்பரத பயிர்வின் பரப்பு இரையன
உரம் மற்றும் பூச்சிக் கொல்லிகளின் உபயோகம்

நீர்மயச்சுப்பரத பயிர்கள்.

இனம்.	நெல்.		வாழை.		தென்னை.		பாக்கு.		மரவள்ளி.	
	உ.வி.ர.	உ.வ.	உ.வி.ர.	உ.வ.	உ.வி.ர.	உ.வ.	உ.வி.ர.	உ.வ.	உ.வி.ர.	உ.வ.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
3 சாணம் *போன்ற மண்ணை உரங்கள் மட்டும்.										
(i) பண்ணை மண்ணை உரங் கள் நிலப்பரப்பு.										
பண்ணை மண்ணை உரங்கள் அளவு(கி.கி.).										
(ii) பிண்ணாக்கு நிலப்பரப்பு.										
பிண்ணாக்கு அளவு (கி.கி.)										
(iii) இதர உரங்கள் நிலப் பரப்பு.										
இதர உரங்கள் அளவு (கி.கி.)										

விவரப் பட்டியல் 2.2 (பி)—தொடர்ச்சி.

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)

4. பூச்சி கொல்லி மருந்துகள்
பயன்படுத்திய பரப்பு.

பூச்சி கொல்லி மருந்து
கள் பயன் படுத்திய
அளவு (கி.கி.)

5. இரையன் உரம் உபயோ
கிக்கப்பட்டத நிலப்
பரப்பு.

6. மண்ணை உரம் உபயோ
கிக்கப்பட்டத நிலப்
பரப்பு.

7. பூச்சிக் கொல்லி உபயோ
கிக்கப்பட்டத நிலப்
பரப்பு.

உ.வி.ர. = உயர்ந்த விலைச்சல் ரகம்.

உ.ல. = உலர்ந்த வகை.

வருவாய் சூழலாளரின் எக்யோப்பம்.

கர்ணாம்கிராம அதிகாரிபுத்தலையாளரின்
எக்யோப்பம்.

நாள்.....

செட்டர்ஷீட்டில் அலுவலரின்
எக்யோப்பம்.

ANNEXURE 22

தமிழ்நாடு விவசாயக் கணக்கீடு 1970—71

விலாபப்பட்டியல் 2.3 (எ)&(பி).

கீழ்க்கண்ட வட்டப்பகுதி நகராட்சி
நகரம் வட்டாரப் பகுதி இராமங்கா.

30-6-71ல் சொந்தமாக வைத்திருந்த கால்நடை, எருமைகள் இவற்றிற்கான பட்டியல்.

விலாபப்பட்டியல் 2.3 (எ)

விலாபப்பட்டியல் 2.3 (பி).

வரிசை எண்.	இனம்.	கால்நடை எருமைகள் எண்ணிக்கை.	வரிசை எண்.	இனம்.	எண்ணிக்கை.
(1)	(2)	(3)	(4)	(1)	(2)
3 ஆண்டுக்கு மேற்பட்ட ஆண்டுகளில் இன கால்நடைகள்.					
1. வேலை செய்பவை	1. ஓரண்டுக்கு மேற்பட்ட செம்மறி ஆடுகள் .. .. .	.. .. .	.. .. .
2. மற்றவை	2. ஓரண்டுக்கு மேற்பட்ட செம்மறி ஆடுகள் .. .. .	.. .. .	.. .. .
3. உப-மொத்தம்	3. ஓரண்டுக்கு மேற்பட்ட செம்மறி ஆடுகள் .. .. .	.. .. .	.. .. .
3 ஆண்டுக்கு மேற்பட்ட பெண் இன கால்நடைகள்.					
4. பால் தருபவை	4. ஓரண்டுக்கு மேற்பட்ட வெள்ளாடுகள் .. .. .	.. .. .	.. .. .
5. மற்றவை	5. குதிரைகள், மட்டக் குதிரைகள் .. .. .	.. .. .	.. .. .
6. உப-மொத்தம்	6. கோவெறு சமுதானங்கள் .. .. .	.. .. .	.. .. .
7. இளம் கால்நடை	7. கழுதைகள் .. .. .	.. .. .	.. .. .
8. மொத்தம்	8. ஒட்டகங்கள் .. .. .	.. .. .	.. .. .
			9. ஆறு மாதங்களுக்கு மேற்பட்ட பெண்கள் .. .. .	.. .. .	.. .. .
			10. ஆறு மாதங்களுக்கு மேற்பட்ட பெண்கள் .. .. .	.. .. .	.. .. .
			11. கோழி இனங்கள் .. .. .	.. .. .	.. .. .

ANNEXURE 23

தமிழ்நாடு விவசாயக் கணக்கீடு 1970-71

விவரப் பட்டியல் 2.4

மாவட்டம்..... வட்டம்..... கர்ணத்தின் வட்டம்/பகுதி/நகராட்சி.
நகரக் வட்டாரப் பகுதி/கிராமம்/கரா.

30—6—1971-ல் சொந்தமாக வைத்திருந்த விவசாய இயந்திரங்கள் மற்றும்
உழுக் கருவிகளுக்கான பட்டியல்.

வரிசை எண்.	இனம்.	எண்ணிக்கை.	
		முழுதும் சொந்தமாக.	கூட்டாக.
(1)	(2)	(3)	(4)
1	கலப்பைகள் (மரத்தாலானவை)	..	..
2	கலப்பைகள் (இரும்பாலானவை)	..	..
3	பரம்புகளும், மண்வெட்டிகளும்	..	..
4	விதை கலப்பை	..	..
5	தெளிக்கும் கருவிகள்	..	..
6	உமி பிரிக்கும் இயந்திரம்	..	..
7	எந்திர கலப்பைகள் (கு.ஒ.ச.)	..	..
8	கதிரடிக்கும் கருவி	..	..
9	பம்புகள் (மின்சாரம்)	..	..
10	பம்புகள் (உசல்)	..	..
11	மாட்டு வண்டிகள்	..	..
12	கரும்பு பிழியும் இயந்திரம்	..	..
13	எண்ணெய் பிழியும் இயந்திரம்	..	..
14	அடை காக்கும் கருவிகள்	..	..
15	வெண்ணை எடுக்கும் இயந்திரங்கள்	..	..
16	மற்றவை (விவரம் தருக)	..	..

நாள்..... கர்ணம்/கிராம அலுவலர்/உதவியாளர் கையொப்பம்.

வருவாய் -ஆய்வாளரின் கையொப்பம்.

மேற்பார்வையாளரின் கையொப்பம்.

ANNEXURE 24

தமிழ்நாடு விவசாயக் கணக்கிடு 1970-71

விவரப் பட்டியல் 2:5 (எ)

விவசாயம் மற்றும் வேளாண்மை குடி மக்களின் வேலை வாய்ப்பு.

மாவுட்டம்

வட்டம்

கர்ணத்தின் வட்டம்/பகுதி/நகராட்சி/நகரக் வட்டாரப் பகுதி/கிராமம்/கரா.

- (1) கைப்பற்று நிலத்தின் எல்லா விவசாய வேலைகளையும் ஆம்/இல்லை.
கைப்பற்றுதாரருடைய குடும்பத்தினரே செய்கின்றனரா ?
(மற்றவர்களுடன் சேர்ந்து செய்தலை உட்பட).
- (2) கைப்பற்று நிலத்தில் உள்ள எல்லா பெரும் பகுதி விவசாய வேலைகளையும் கைப்பற்றுதாரருடைய குடும்பத்தினரும் கூலிக்கு அமர்த்தப்பட்ட ஆட்களாலும் சேர்ந்து செய்யப்பட்டதா ? (முக்கியமான வேலை என்பது 50 சதவீதத்திற்கு மேற்பட்ட வேலைகள் கால வரம்பை பொறுத்தது). ஆம்/இல்லை.
- (3) கைப்பற்று நிலத்திலுள்ள பெரும்பான்மையான எல்லா விவசாய வேலைகளையும் கூலி ஆட்களைக் கொண்டு செய்யப்பட்டதா ? ஆம்/இல்லை.

நாள் :

கர்ணம்/கிராம அதிகாரி/உதவியாளரின் கையொப்பம்.

வருவாய் ஆய்வாளரின் கையொப்பம்.

மேற்பார்வையிடும் அலுவலரின் கையொப்பம்.

ANNEXURE 25

வேளாண் குடிமக்கள் தொகை

விவரப் பட்டியல் 2-5 (பி).

வரிசை
எண்.

இனம்.

ஆண்.

பெண்.

மொத்தம்.

1 கைப்பற்றுதாரரின் குடும்ப அங்கத்
தினர்கள் (கைப்பற்றுதாரரும்
உறவினரல்லாதவர் உட்பட).

- (i) 15 வயதுக்குட்பட்டவர்கள். ..
- (ii) 15 முதல் 55 வரை வயதுள்ளோர்.
- (iii) 55 முதல் 64 வரை வயதுள்ளோர்
- (iv) 65 வயதும் அதற்கும் மேற்பட்டவர்கள்.

2 கைப்பற்று நிலத்தில் வசிக்கும் இதர
நபர்கள் (கைப்பற்றுதாரருடைய
குடும்பத்தினராய் இல்லாமல் ஆனால்
கைப்பற்று நிலத்தில் விவசாய
வேலை செய்து கொண்டோ அல்லது
செய்யாமலோ இருப்பவர்).

- (i) 15 வயதுக்குட்பட்டவர்கள்
- (ii) 15 முதல் 55 வரை வயதுள்ளோர்
- (iii) 55 முதல் 64 வரை வயதுள்ளோர்
- (iv) 65 வயதும் அதற்கும் மேற்பட்டோர்

நாள்

கர்ணம்/இராம அதிகாரி/உதவியாளரின் கையொப்பம்.

வருவாய் ஆய்வாளரின் கையொப்பம்.

மேற்பார்வையிடும் அலுவலரின் கையொப்பம்.

ANNEXURE 26

விவசாயக் கணக்கிடு 1970-71.

விவரப் பட்டியல் 2-6.

இதர தொழில்களுடன் விவசாய கைப்பற்று நிலத்தொடர்பு.

மாவட்டம்.

தாலுகா.

கர்ணத்தின் வட்டம்/பகுதி|நகராட்சி|நகரக வட்டாரப் பகுதி|கிராமம்|கரா.

- I விவசாய ஆண்டு 1970-71-ல் உங்கள் கைப்பற்றிலுள்ள நிலம் கீழ்க்கண்ட ஏதாவது ஒன்றுடன் பண்ணை முறை தொடர்பு கொண்டிருந்ததா ?

- பால் பண்ணை உற்பத்தியி் பொருள்கள்.
- காய்கறி பழங்கள் பதப்படுத்துதல்.
- தானிய தானாவணப் பொருள்கள் உற்பத்தி.
- வெல்லப் பாரு உற்பத்தி.
- இதர தொழில்கள் (விவரம் தருக).

- II கைப்பற்று நிலத்தில் உள்ள எந்த விவசாயப் பொருளினும் இதர தொழில் உற்பத்தி துறையினருடன் ஒப்பந்தத்தின் பேரில் செய்யப்பட்டதா ? ஆம்/இல்லை.

ஆம் எனின் தொழிலின் பெயர் (கரும்பு, காய்கறி, பால், கோழி இனம், முட்டைகள் முதலியன).

வருவாய் ஆய்வாளரின் கையொப்பம்.

கிராம அதிகாரியின் கையொப்பம்.

தேதி.

தேதி

மேற்பார்வையிடும் அலுவலரின் கையொப்பம்.

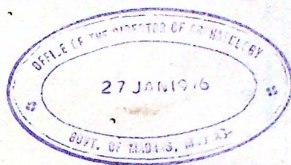
தேதி

ANNEXURE 27

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE I.—NUMBER OF OPERATIONAL HOLDINGS AND AREA OPERATED BY SIZE CLASS OF OPERATIONAL HOLDINGS.

Size Class-Hectares	Individual holdings		Joint holdings		Total holdings	
	Number. (2)	Area. (3)	Number (4)	Area (5)	Number. (6)	Area (7)
(1)						
0-0.5
0.5-1.0
1.0-2.0
2.0-3.0
3.0-4.0
4.0-5.0
5.0-10.0
10.0-20.0
20.0-30.0
30.0-40.0
40.0-50.0
Above 50
Total



ANNEXURE 28

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE 2—NUMBER OF OPERATIONAL HOLDINGS AND AREA REPORTING IRRIGATION.

Size Class Hectres.	Total holdings.		Wholly irrigated.		Wholly unirrigated.		Partly irrigated.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
								(10)
0-0.5
0.5-1
1-2
2-3
3-4
4-5
5-10
10-20
20-30
30-40
40-50
Above 50
Total

ANNEXURE 29

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE 3—NUMBER AND AREA OF HOLDINGS BY TENURE AND BY SIZE OF HOLDINGS.

Size Class—Hectares.	(1)	Total holdings.		Owned and self operated.		Total.		For fixed money.		For fixed produce.		For share of produce.		Others.		More than one form of tenure.	
		No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
0—0.5
0.5—1
1—2
2—3
3—4
4—5
5—10
10—20
20—30
30—40
40—50
Above 50
Total

ANNEXURE 31

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE 5—SOURCEWISE AREA IRRIGATED BY SIZE DISTRIBUTION OF HOLDINGS.

Size Class—Hectares—	Total holdings.		Area irrigated by				Total irrigated area.
	No.	Area.	Canals.	Tanks.	Tube wells.	Wells.	Others.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(9)							
0—0.5
0.5—1
1—2
2—3
3—4
4—5
5—10
10—20
20—30
30—40
40—50
Above 50
Total

ANNEXURE 32—*cont.*

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE 6—AREA UNDER PRINCIPAL CROPS BY SIZE DISTRIBUTION OF HOLDINGS—*cont.*

Size Class—Hectares.	Orchards, (12)	Vegetables, (13)	Cotton, (14)	Sugarcane, (15)	Groundnut, (16)	Coconut, (17)
(1)						
0-0.5
0.5-1
1-2
2-3
3-4
4-5
5-10
10-20
20-30
30-40
40-50
Above 50
Total

ANNEXURE 32—*cont.*

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE 6—AREA UNDER PRINCIPAL CROPS BY SIZE DISTRIBUTION OF HOLDINGS—*cont.*

Size Class—Hectares.	Gingelly (18)	Oilseeds, (19)	Coffee, (20)	Ten, (21)	Others, (22)	Total non-food crops, (23)
0-0.5
0.5-1
1-2
2-3
3-4
4-5
5-10
10-20
20-30
30-40
40-50
Above 50
Total

ANNEXURE 33

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE I.—NUMBER OF OPERATIONAL HOLDINGS AND AREA OPERATED BY SIZE CLASS OF OPERATIONAL HOLDINGS.

Serial number and size class (Hectares).	Individual holdings.		Joint holdings.		Total holdings.	
	No.	Area.	No.	Area.	No.	Area.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Below 0.5
2 0.5-1.0
3 1.0-2.0
4 2.0-3.0
5 3.0-4.0
6 4.0-5.0
7 5.0-10.0
8 10.0-20.0
9 20.0-30.0
10 30.0-40.0
11 40.0-50.0
12 50.0 and above
Total

ANNEXURE 35

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE III.—NUMBER AND AREA OF HOLDINGS BY TENURE AND SIZE OF HOLDINGS.

(Serial number and Size class Hectares.)	Total holdings.		Wholly owned and self operated.		Holdings operated under one form of tenure-rented from others.												More than one form of tenure	
	No. Area.		No. Area.		Total		For fixed money.		For fixed produce.		For share of produce		Others					
	(2)	(3)	(4)	(5)	No. (6)	Area (7)	No. (8)	Area (9)	No. (10)	Area (11)	No. (12)	Area (13)	No. (14)	Area (15)	No. (16)	Area (17)		
1 Below 0.5	(1)																	
2 0.5-1.0																		
3 1.0-2.0																		
4 2.0-3.0																		
5 3.0-4.0																		
6 4.0-5.0																		
7 5.0-10.0																		
8 10.0-20.0																		
9 20.0-30.0																		
10 30.0-40.0																		
11 40.0-50.0																		
12 50.0 and above																		
Total																		

ANNEXURE 37

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE V.—SOURCEWISE AREA IRRIGATED BY SIZE DISTRIBUTION OF HOLDINGS.

Serial num- ber.	Size Class (Hectares).	Total holdings.		Area irrigated by				Part irrigated area.
		Number.	Area.	Canals.	Tanks.	Wells.	Tube wells.	Others.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Below 0.5	..	..	..	..	..	..	(10)
2	0.5-1.0	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 38

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE VI—Area under principal crops by size distribution of holdings.

Serial num- ber.	Size Class, (Hectares).	Total holdings.		Total gross cropped area.		Area under			
		Number.	Area.	Irrigated.	Un- irrigated.	Rice.	Un- irrigated.	Irrigated.	Un- irrigated.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Below 0.5	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..

ANNEXURE 38—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE VI—AREA UNDER PRINCIPAL CROPS BY SIZE DISTRIBUTION OF HOLDINGS—cont.

Serial num- ber.	Size Class (Hectares).	Area under							
		Condiments.		Coconut.		Areca nut.		Fruits.	
		Irrigated. (21)	Un- irrigated. (22)	Irrigated. (23)	Un- irrigated. (24)	Irrigated. (25)	Un- irrigated. (26)	Irrigated. (27)	Un- irrigated. (28)
(1)	(2)								
1	Below 0.5	..	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..

ANNEXURE 38—*cont.*

TAMIL NADU AGRICULTURAL CENSUS 1970-71

TABLE VI—AREA UNDER PRINCIPAL CROPS BY SIZE DISTRIBUTION OF HOLDINGS—*cont.*

Serial num- ber.	Size Class (Hectres).	Area under							
		Oil seeds.		Coffee.		Tea.		Rubber.	
		Irrigated. (29)	Un- irrigated. (30)	Irrigated. (31)	Un- irrigated. (32)	Irrigated. (33)	Un- irrigated. (34)	Irrigated. (35)	Un- irrigated. (36)
(1)	(2)								
1	Below 0.5	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..
3	1.0-2.0*	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..

ANNEXURE 38—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE VI—AREA UNDER PRINCIPAL CROPS BY SIZE DISTRIBUTION OF HOLDINGS—cont.

Serial num- ber.	Size Class (Hectares).	(2)	Area under				Total non-food crops.	
			Other vegetables.		Other trees.		Others.	
			Irrigated.	Un- irrigated.	Irrigated.	Un- irrigated.	Irrigated.	Un- irrigated.
			(37)	(38)	(39)	(40)	(41)	(42)
							(43)	(44)
(1)								
1	Below 0.5	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..

ANNEXURE 39

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE VII—ESTIMATED NUMBER OF PARCELS PER OPERATIONAL HOLDING, AVERAGE AREA OF PARCELS AND NUMBER OF HOLDINGS REPORTING IRRIGATED AND UNIRRIGATED AREA, CROPPED ONCE AND UNDER MULTIPLE CROPPING FOR EACH SIZE CLASS OF OPERATIONAL HOLDINGS.

Serial number.	Size class of the operational holdings (Hectares).	Total holdings.		Number of parcels per operational holding.	Average area per parcel (Hectares).	Irrigated area.			Unirrigated area.			Total gross cropped area.	
		Number.	Area.			Area cropped once.	Area cropped twice.	Area cropped more than twice.	Area cropped once.	Area cropped twice.	Area cropped more than twice.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	Below 0.5 *	..	..	..	..	..	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..	..	..	..	..

ANNEXURE 40

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE VIII.—EXTENT OF DRAINAGE FACILITIES IN HOLDINGS WITH AREA WATER-LOGGED.

Serial number.	Size Class (Hectares).	Total holdings.		Holdings with area water-logged.		Area without drainage facilities.
		Number.	Area.	Number.	Total area.	
(1) *	(2)	(3)	(4)	(5)	(6)	(8)
1	Below 0.5	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..
12	50.0 and above	..	..	..	..	..
Total		..	..	..	..	..

ANNEXURE 41

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

[illegible]

ANNEXURE 42

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE X.—NUMBER OF HOLDINGS GROWING HIGH YIELDING VARIETIES (H.Y.V.) AND THE AREA UNDER H.Y.V. AND LOCAL VARIETIES OF IMPORTANT CROPS.

Serial num- ber.	Size class (Hectares).	Total holdings.		Rice.			Soyab.		
		Number.	Area.	Holdings growing H.Y.V.			Holdings growing H.Y.V.		
				Number.	Total area.	Area under H.Y.V. L.V.	Number.	Total area.	Area under H.Y.V. L.V.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Below 0.5	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..

NOTE: H.Y.V. stands for High Yielding Varieties; L.V. stands for Local Varieties.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XI—AREA TREATED WITH AMMONIUM SULPHATE AND THE QUANTITY APPLIED FOR DIFFERENT CROPS ACCORDING TO SIZE DISTRIBUTION OF HOLDINGS.

Serial number	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Rice.				Average rate of application ($K_2/Hec.$)			
		Number	Area.		Total area under the crop.		Area treated with Ammonium Sulphate.		Quantity of Ammonium Sulphate applied (K_2).	Average rate of application ($K_2/Hec.$)		
					HV	LV	HV	LV				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..	..	..	..

NOTE—HV—High Yielding Varieties.
LV—Local Varieties.

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Jovar.				Average rate of application (Kg./Hec.)	
		Number.	Area.		Total area under the crop.		Area treated with Ammonium Sulphate.		Quantity of Ammonium Sulphate applied (Kg.)	
	(2)	(3)	(4)	(5)	HVV	LV	HVV	LV	HVV	LV
1	Below 0.5	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..	..

NOTE—HVV—High Yielding Varieties.
LV—Local Varieties.

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Other cereals.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(22)	(23)	(25)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
		Total		..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Pulses.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(26)	(27)	(28)
							(29)
1	Below 0.5	..	..	..
2	0.5-1.0	..	..	..
3	1.0-2.0	..	..	..
4	2.0-3.0	..	..	..
5	3.0-4.0	..	..	..
6	4.0-5.0	..	..	..
7	5.0-10.0	..	..	..
8	10.0-20.0	..	..	..
9	20.0-30.0	..	..	..
10	30.0-40.0	..	..	..
11	40.0-50.0	..	..	..
12	50.0 and above	..	..	..
		Total					

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Total food grains.		
		Number.	Area.		Area treated with Ammonium Sulphate.	Quantity of Ammonium Sulphate applied (Kg.)	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(30)	(31)	(32)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Potatoes.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(34)	(35)	(37)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Pepper.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(38)	(39)	(41)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
		Total		..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of ammonium sulphate.	Condiciments.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(42)	(43)	(45)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Coconut.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(46)	(47)	(49)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12.	50.0 and above	..	..	..	..	..	..
		Total		..	..	..	..

ANNEXURE 43—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—*cont.*

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Arcanaut		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(50)	(51)	(53)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
		Total					

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Fruits.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(5A)	(5B)	(5C)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Oil seeds.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(58)	(59)	(61)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Coffee.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg/Hec.)
(1)	(2)	(3)	(4)	(5)	(6)	(83)	(85)
1	Below 0.5	—	—	—	—	—	—
2	0.5—1.0	—	—	—	—	—	—
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XI—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Tota.		Average rate of application (Kg./Hec.)
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	
(1)	(2)	(3)	(4)	(5)	(66)	(67)	(68)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total							

ANNEXURE 43 - cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI - cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Rubber.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(70)	(71)	(73)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Other vegetables.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(74)	(75)	(77)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Other trees.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(78)	(79)	(81)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above.	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Others.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(82)	(83)	(85)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

Total

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Ammonium Sulphate.	Total non-food crops.		
		Number.	Area.		Total area under the crop.	Area treated with Ammonium Sulphate.	Average rate of application (kg./hec.)
(1)	(2)	(3)	(4)	(5)	(86)	(87)	(89)
1	Below 0.5	..	..	..
2	0.5-1.0	..	..	..
3	1.0-2.0	..	..	..
4	2.0-3.0	..	..	..
5	3.0-4.0	..	..	..
6	4.0-5.0	..	..	..
7	5.0-10.0	..	..	..
8	10.0-20.0	..	..	..
9	20.0-30.0	..	..	..
10	30.0-40.0	..	..	..
11	40.0-50.0	..	..	..
12	50.0 and above	..	..	..
		Total		..			

ANNEXURE 44.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XII.—AREA TREATED WITH UREA AND THE QUANTITY APPLIED FOR DIFFERENT CROPS ACCORDING TO SIZE DISTRIBUTION OF HOLDINGS.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Urea.	Rice.				Average rate of application (Kg./Hec.)			
		Number.	Area.		Total area under the crop.		Area treated with Urea.		Quantity of Urea applied (Kg.).		LV (13)	
					HYV (6)	LV (7)	HYV (8)	LV (9)	HYV (10)	LV (11)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..	..	..	..	..

NOTE:—HYV = High Yielding Varieties
LV = Local Varieties

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XII—*cont.*

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Jovar.							
		Number.	Area.		Total area under the crop.		Area treated with Urea.		Quantity of Urea applied (Kg.).		Average rate of application (Kg./Hec.)	
					HYV (14)	LV (15)	HYV (16)	LV (17)	HYV (18)	LV (19)		
(1)	(2)	(3)	(4)	(5)	HYV (14)	LV (15)	HYV (16)	LV (17)	HYV (18)	LV (19)	HYV (20)	LV (21)
1	Below 0.5	..	..	..					
2	0.5-1.0	..	..	..					
3	1.0-2.0	..	..	..					
4	2.0-3.0	..	..	..					
5	3.0-4.0	..	..	..					
6	4.0-5.0	..	..	..					
7	5.0-10.0	..	..	..					
8	10.0-20.0	..	..	..					
9	20.0-30.0	..	..	..					
10	30.0-40.0	..	..	..					
11	40.0-50.0	..	..	..					
12	50.0 and above	..	..	..					
Total				..								

NOTE:—HYV = High Yielding Varieties
LV = Local Varieties

ANNEXURE 44—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Urea.	Other cereals.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(22)	(23)	(25)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XII—*cont.*

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urid.	Pulses.		
		Number.	Area.		Total area under the crop.	Area treated with Urid.	Quantity of Urida applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(26)	(27)	(28)
							Average rate of application (Kg./Hec.) (29)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XII—*cont.*

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Total food grains.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(30)	(31)	(33)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total				..	..	..	..

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970—71.
TABLE XII—*cont.*

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Potatoes.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(34)	(35)	(36)
				(5)			(37)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0 *	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XII—*cont.*

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea. (5)	Pepper.		
		Number.	Area.		Total area under the crop. (38)	Area treated with Urea. (39)	Average rate of application (kg./hec.) (41)
(1)	(2)	(3)	(4)	(5)	(38)	(39)	(41)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Contingents.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(42)	(43)	(45)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Coconut.			
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Quantity of Urea applied (Kg.)	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(46)	(47)	(48)	(49)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970—71
TABLE XII—*cont.*

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Arecanad.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(50)	(51)	(53)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—*cont.*

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Fruits.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(54)	(55)	(56)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Urea.	Oil seeds.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(58)	(59)	(61)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Coffee.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of Urea application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(62)	(63)	(65)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Urea.	Trea.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of Urea applied (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(66)	(67)	(68)
							(69)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Urea.	Rubber.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application of Urea applied (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(70)	(71)	(73)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—cont.

Serial number.	Size class (Hectares).	Total holdings.		Number of holdings reporting use of Urea.	Other vegetables.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Quantity of Urea applied. (Kg.)
(1)	(2)	(3)	(4)	(5)	(74)	(75)	(76)
							Average rate of application. (Kg./Hec.) (77)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.2	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.09	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 44—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970—71
TABLE XII—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of urea.	Total area under the crop.	Area treated with Urea.	Quantity of Urea applied.	
		Number.	Area.				(Kg.)	(Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(78)	(79)	(80)	(81)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 44—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XII—cont.

TABLE XII—Cont.

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Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Urea.	Others.			
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Quantity of Urea applied.	Average rate of application.
(1)	(2)	(3)	(4)	(5)	(82)	(83)	(84)	(Kg./Hc.) (85)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 44—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970—71

TABLE XII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Urea.	Total non-food crops.		
		Number.	Area.		Total area under the crop.	Area treated with Urea.	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(86)	(87)	(88)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 45.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XIII.—AREA TREATED WITH CALCIUM AMMONIUM NITRATE AND THE QUANTITY APPLIED FOR DIFFERENT CROPS ACCORDING TO SIZE DISTRIBUTION OF HOLDINGS.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammu. Nitrate.	Total area under the crop.		Area treated with Cal. Ammu. Nitrate.		Quantity of Cal. Ammu. Nitrate applied. (Kg.)		Average rate of application. (Kg./Hec.).	
		Number.	Area.		HYV	LV	HYV	LV	HYV	LV	HYV.	LV
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..	..	..	..

NOTE:—HYV = High Yielding Varieties
LV = Local Varieties

ANNEXURE 45—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XIII—cont.

Serial number.	Size Class. (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammun. Nitrate.	Total area under the crop.		Area treated with Cal. Ammun. Nitrate.		Quantity of Cal. Ammun. Nitrate applied. (Kg.)		Average rate of application. (Kg./Hc.).	
		Number.	Area.		HYV.	LV	HYV	LV	HYV	LV	HYV	LV
(1)	(2)	(3)	(4)	(5)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..	..	..	..	..

NOTE :—HYV = High Yielding Varieties
LV = Local varieties

ANNEXURE 45—cont

TAMIL NADU AGRICULTURAL CENSUS 1970-71

TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammu. Nitrate.	Other cereals.			Average rate of application (Kg./Hec.)
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammu. Nitrate.	Quantity of Cal. Ammu. Nitrate applied. (Kg.)	
(1)	(2)	(3)	(4)	(5)	(22)	(23)	(24)	(25)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 45—contd
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Amm. Nitrate.	Pulses.			Average rate of application. (Kg./Hec.) (29)
		Number.	Area.		Total area under the crop.	Area treated with Cal. Amm. Nitrate.	Quantity of Cal. Amm. Nitrate applied. (Kg.) (28)	
(1)	(2)	(3)	(4)	(5)	(26)	(27)	(28)	(29)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 45—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XIII—cont

Serial number	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Amm. Nitrate.	Total food grains.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Amm. Nitrate.	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(30)	(31)	(32)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 45—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XIII—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammn. Nitrate.	Potatoes.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammn. Nitrate.	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(34)	(35)	(36)
1	Below 0.5	..	..	..	..	..	37
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 45—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XIII—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammn. Nitrate.	Pepper.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammn. Nitrate.	Quantity of Cal. Ammn. Nitrate applied. (Kg.)
(1)	(2)	(3)	(4)	(5)	(38)	(39)	(40)
							Average rate of application. (Kg./Hec.) (41)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 45—*cont*
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XIII—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Amm. Nitrate.	Condiments.			Average rate of application. (Kg./Hec.)
		Number.	Area.		Total area under the crop.	Area treated with Cal. Amm. Nitrate.	Quantity of Cal. Amm. Nitrate applied. (Kg.)	
(1)	2)	(3)	(4)	(5)	(42)	(43)	(44)	(45)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..

ANNEXURE 45—*cont*
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIII—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammu. Nitrate.	Coconut.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammu. Nitrate	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(46)	(47)	(49)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total ..		..	..	..	..	..	..

ANNEXURE 45—cont
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIII—cont

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Amma. Nitrate.	Acreamul.			Average rate of application. (Kg./Hec.)
		Number.	Area.		Total area under the crop.	Area treated with Cal. Amma. Nitrate.	Quantity of Cal. Amma. Nitrate applied. (Kg.)	
(1)	(2)	(3)	(4)	(5)	(50)	(51)	(52)	(53)
1	Below 0.5	..	..	..	
2	0.5-1.0	..	..	..	
3	1.0-2.0	..	..	..	
4	2.0-3.0	..	..	..	
5	3.0-4.0	..	..	..	
6	4.0-5.0	..	..	..	
7	5.0-10.0	..	..	..	
8	10.0-20.0	..	..	..	
9	20.0-30.0	..	..	..	
10	30.0-40.0	..	..	..	
11	40.0-50.0	..	..	..	
12	50.0 and above	..	..	..	
	Total	..	..	..	

ANNEXURE 45—cont
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Amm. Nitrate.	Fruits.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Amm. Nitrate.	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(54)	(55)	(57)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
IV	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 45—*cont*
TAMIL NADU AGRICULTURAL CENSUS, 1970-71.
TABLE XIII—*cont*.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Amm. Nitrate.	Oil Seeds.			Average rate of application. (Kg./Hec.)
		Number.	Area		Total area under the crop.	Area treated with Cal. Amm. Nitrate.	Quantity of Cal. Amm. Nitrate applied. (Kg.)	
(1)	(2)	(3)	(4)	(5)	(58)	(59)	(60)	(61)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..

ANNEXURE 45—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammn. Nitrate.	Coffee.			
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammn. Nitrate.	Quantity of Cal. Ammn. Nitrate applied. (Kg.)	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(62)	(63)	(64)	(65)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 45—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Amm. Nitrate.	Tea.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Amm. Nitrate.	Average rate of application.
(1)	(2)	(3)	(4)	(5)	(66)	(67)	(68) (Kg./Hec.)
1	Below 0.5	..	..	..
2	0.5—1.0	..	..	..
3	1.0—2.0	..	..	..
4	2.0—3.0	..	..	..
5	3.0—4.0	..	..	..
6	4.0—5.0	..	..	..
7	5.0—10.0	..	..	..
8	10.0—20.0	..	..	..
9	20.0—30.0	..	..	..
10	30.0—40.0	..	..	..
11	40.0—50.0	..	..	..
12	50.0 and above	..	..	..
Total ..							

ANNEXURE 45—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammu. Nitrate.	Rubber.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammu. Nitrate.	Quantity of Cal. Ammu. Nitrate applied. (Kg.).
(1)	(2)	(3)	(4)	(5)	(70)	(71)	(72)
							Average rate of application (Kg./Hec.). (73)
1	Below 0.5	..	..	..
2	0.5—1.0	..	..	..
3	1.0—2.0	..	..	..
4	2.0—3.0	..	..	..
5	3.0—4.0	..	..	..
6	4.0—5.0	..	..	..
7	5.0—10.0	..	..	..
8	10.0—20.0	..	..	..
9	20.0—30.0	..	..	..
10	30.0—40.0	..	..	..
11	40.0—50.0	..	..	..
12	50.0 and above	..	..	..
Total		..	..	..

ANNEXURE 45—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammu. Nitrate.	Other vegetables.			
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammu. Nitrate.	Quantity of Cal. Ammu. Nitrate applied. (Kg.)	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(74)	(75)	(76)	(77)
1	Below 0.5	..	..	..	
2	0.5—1.0	..	..	..	
3	1.0—2.0	..	..	..	
4	2.0—3.0	..	..	..	
5	3.0—4.0	..	..	..	
6	4.0—5.0	..	..	..	
7	5.0—10.0	..	..	..	
8	10.0—20.0	..	..	..	
9	20.0—30.0	..	..	..	
10	30.0—40.0	..	..	..	
11	40.0—50.0	..	..	..	
12	50.0 and above	..	..	..	
		Total	..	..		

ANNEXURE 45—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Amm. Nitrate.	Other trees.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Amm. Nitrate.	Average rate of application.
(1)	(2)	(3)	(4)	(5)	(78)	(79)	(80) (Kg.) (81) (Kg./Hec.)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
1	50.0 and above	..	..	..	..	..	..
Total ..		..	..	..	..	..	..

ANNEXURE 45—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammon. Nitrate.	Others.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammon. Nitrate.	Quantity of Cal. Ammon. Nitrate applied. (Kg.)
(1)	(2)	(3)	(4)	(5)	(82)	(83)	(84)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total ..		..	..	..	..	..	..

Average rate of application. (Kg./Hec.) (85)

Quantity of Cal. Ammon. Nitrate applied. (Kg.) (84)

Area treated with Cal. Ammon. Nitrate. (83)

Total area under the crop. (82)

Number of holdings reporting use of Cal. Ammon. Nitrate. (5)

ANNEXURE 45—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XIII—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Cal. Ammon. Nitrate.	Total non-food crops.		
		Number.	Area.		Total area under the crop.	Area treated with Cal. Ammon. Nitrate.	Average rate of application, (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(86)	(87)	(88)
							(89)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 46

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XIV.—Area treated with Super Phosphate and the Quantity applied for different crops according to size distribution of holdings.

Serial number.	Size class (Hectares).	Total holdings.		Number of holdings reporting use of Super Phosphate.	Rice.							
		Number.	Area		Total area under the crop. HYV. LV.	Area treated with Super Phosphate HYV. LV.	Quantity of Super Phosphate applied (Kg.) HYV. LV.	Average rate of application (kg./Hec.) HYV. LV.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..
Total ..												..

NOTE :— H.Y.V. = High Yielding Varieties.

L.V. = Local Varieties.

ANNEXURE 46—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XIV—cont.

Serial number.	Size Class (Hectares)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Jouar.			
		Number.	Area.		Total area under the crop. HYV. LV.	Area treated with Super Phosphate. HYV. LV.	Quantity of Super Phosphate applied (Kg.) HYV. LV.	Average rate of application (Kg. /Hec.) HYV. LV.
(1)	(2)	(3)	(4)	(5)	(14)	(16)	(18)	(20) (21)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

NOTE:— HYV = High Yielding Varieties.
LV = Local Varieties.

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970—71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Other cereals.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(22)	(23)	(24)
							Average rate of application. (Kg./Hec.) (25)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above...	..	..	..	..	..	..
		Total	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Pulses.		
		Number.	Area		Total area under the crop	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(26)	(27)	(28)
							Average rate of application (Kg./Hec.) (29)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Total food grains.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(30)	(31)	(32)
							Average rate of application (Kg./Hec.) (33)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Potatoes.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(34)	(35)	(36)
							Average rate of application (Kg./Hec.) (37)
1	Below 0.5	..	..	..
2	0.5-1.0	..	..	..
3	1.0-2.0	..	..	..
4	2.0-3.0	..	..	..
5	3.0-4.0	..	..	..
6	4.0-5.0	..	..	..
7	5.0-10.0	..	..	..
8	10.0-20.0	..	..	..
9	20.0-30.0	..	..	..
10	30.0-40.0	..	..	..
11	40.0-50.0	..	..	..
12	50.0 and above	..	..	..
Total		..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares.)	Total holdings		Number of holdings reporting use of Super Phosphate.	Pepper.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(38)	(39)	(41)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above.	..	..	..	..	..	..
		Total		..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Super Phosphate.	Conditions.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(42)	(43)	(44)
							Average rate of application (Kg./Hec.). (45)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above ..	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970—71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Super Phosphate.	Coconut.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(46)	(47)	(48)
							Average rate of application (Kg./Hec.) (42)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial numbers.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Areanut.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied. (Kg.)
(1)	(2)	(3)	(4)	(5)	(50)	(51)	(52)
							Average rate of application. (Kg./Hec.) (53)
1	Below 0.5	..	..	..
2	0.5-1.0	..	..	..
3	1.0-2.0	..	..	..
4	2.0-3.0	..	..	..
5	3.0-4.0	..	..	..
6	4.0-5.0	..	..	..
7	5.0-10.0	..	..	..
8	10.0-20.0	..	..	..
9	20.0-30.0	..	..	..
10	30.0-40.0	..	..	..
11	40.0-50.0	..	..	..
12	50.0 and above	..	..	..
	Total	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number	Size Class (Hectares)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Fruits.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(54)	(55)	(56)
							Average rate of application. (Kg./Hec.) (57)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XIV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Super Phosphate.	Oil seeds.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(58)	(59)	(60)
							Average rate of application. (Kg./Hec.) (61)
1	Below 0.5	..	..	..
2	0.5-1.0	..	..	..
3	1.0-2.0	..	..	..
4	2.0-3.0	..	..	..
5	3.0-4.0	..	..	..
6	4.0-5.0	..	..	..
7	5.0-10.0	..	..	..
8	10.0-20.0	..	..	..
9	20.0-30.0	..	..	..
10	30.0-40.0	..	..	..
11	40.0-50.0	..	..	..
12	50.0 and above	..	..	..
	Total	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XIV—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Coffee.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(62)	(63)	(64)
							Average rate of application (Kg./Hec.) (65)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
		Total	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Tea.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(56)	(57)	(58)
							Average rate of application (Kg./Hec) (59)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS, 1970-71
TABLE XIV—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Rubber.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Average rate of application. (Kg. /Hec.)
(1)	(2)	(3)	(4)	(5)	(70)	(71)	(72) (73)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares.)	Total holdings.		Number of holdings reporting use of Super Phosphate.	Other vegetables.			
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied. (Kg.)	Average rate of application. (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(74)	(75)	(76)	(77)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
	%al	..	..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Super Phosphate.	Other trees.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(78)	(79)	(81)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Super Phosphate.	Others.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Quantity of Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(82)	(83)	(84)
							Average rate of application. (Kg./Hec.) (85)
1	Below 0.5	..	..	..
2	0.5—1.0	..	..	..
3	1.0—2.0	..	..	..
4	2.0—3.0	..	..	..
5	3.0—4.0	..	..	..
6	4.0—5.0	..	..	..
7	5.0—10.0	..	..	..
8	10.0—20.0	..	..	..
9	20.0—30.0	..	..	..
10	30.0—40.0	..	..	..
11	40.0—50.0	..	..	..
12	50.0 and above	..	..	..
	Total	..	..	..

ANNEXURE 46—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XIV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Super Phosphate.	Total non-food crops.		
		Number.	Area.		Total area under the crop.	Area treated with Super Phosphate.	Average rate of application (Kg./Hec.)
(1)	(2)	(3)	(4)	(5)	(86)	(87)	(88)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 47

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XV—AREA TREATED WITH TRIPLE SUPER PHOSPHATE AND THE QUANTITY APPLIED FOR DIFFERENT CROPS ACCORDING TO SIZE DISTRIBUTION OF HOLDINGS.

Serial number.	Size Class (Hectares).	Total holdings.		Rice.				Number of holdings reporting use of Triple Super Phosphate.
		Number.	Area.	Total area under the crop.	Area treated with Triple Super Phosphate.	Quantity of Triple Super Phosphate applied (Kg.).	Average rate of application (kg./Hec.).	
(1)	(2)	(3)	(4)	HYV. LV.	HYV. LV.	HYV. LV.	HYV. LV.	(5)
1	Below 0.5	..	..			
2	0.5-1.0	..	..			
3	1.0-2.0	..	..			
4	2.0-3.0	..	..			
5	3.0-4.0	..	..			
6	4.0-5.0	..	..			
7	5.0-10.0	..	..			
8	10.0-20.0	..	..			
9	20.0-30.0	..	..			
10	30.0-40.0	..	..			
11	40.0-50.0	..	..			
12	50.0 and above	..	..			
	Total	..	..			

NOTE.—HYV=High Yielding Varieties.
LV=Local Varieties.

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectures).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate.	Jowar.							Average rate of application. (Kg./Hec).
		Number.	Area.		Total area under the crop.	Area treated with Triple Super Phosphate.	Quantity of Triple Super Phosphate applied (Kg.).	HYV.	LV.	HYV.	LV.	
(1)	(2)	(3)	(4)	(5)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1	Below 0.5	..	..	..					
2	0.5-1.0	..	..	..					
3	1.0-2.0	..	..	..					
4	2.0-3.0	..	..	..					
5	3.0-4.0	..	..	..					
6	4.0-5.0	..	..	..					
7	5.0-10.0	..	..	..					
8	10.0-20.0	..	..	..					
9	20.0-30.0	..	..	..					
10	30.0-40.0	..	..	..					
11	40.0-50.0	..	..	..					
12	50.0 and above	..	..	..					
Total		..	..	..					

NOTE.—HYV = High Yielding Varieties.
LV = Local Varieties.

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Total area under the crop.	Other cereals.		Average rate of application (K_2O)(Hec.) (25)
		Number.	Area.		Area treated with Triple Super Phosphate. (23)	Quantity of Triple Super Phosphate applied. (Kg.) (24)	
(1)	(2)	(3)	(4)	(22)			(25)
1	Below 0.5	..	..		
2	0.5-1.0	..	..		
3	1.0-2.0	..	..		
4	2.0-3.0	..	..		
5	3.0-4.0	..	..		
6	4.0-5.0	..	..		
7	5.0-10.0	..	..		
8	10.0-20.0	..	..		
9	20.0-30.0	..	..		
10	30.0-40.0	..	..		
11	40.0-50.0	..	..		
12	50.0 and above.	..	..		
	Total	..	..		



ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (5)	Pulses.			Average rate of application (Kg./Hec.) (29)
		Number.	Area.		Total area under the crop. (26)	Area treated with Triple Super Phosphate. (27)	Quantity of Triple Super Phosphate applied. (Kg.) (28)	
(1)	(2)	(3)	(4)					
1	Below 0.5	..	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (5)	Total food grains.		
		Number.	Area.		Total area under the crop. (30)	Area treated with Triple Super Phosphate. (31)	Quantity of Triple Super Phosphate applied (Kg.) (32)
		(3)	(4)	(5)			Average rate of application. (Kg. Hec.) (33)
(1)	(2)						
1	Below 0.5	..	..	..
2	0.5-1.0	..	..	..
3	1.0-2.0	..	..	..
4	2.0-3.0	..	..	..
5	3.0-4.0	..	..	..
6	4.0-5.0	..	..	..
7	5.0-10.0	..	..	..
8	10.0-20.0	..	..	..
9	20.0-30.0	..	..	..
10	30.0-40.0	..	..	..
11	40.0-50.0	..	..	..
12	50.0 and above	..	..	..
	Total	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Potatoes.			
		Number.	Area.	Total area under the crop.	Area treated with Triple Super Phosphate.	Quantity of Triple Super Phosphate applied (Kg.).	Average rate of application (Kg./Hec.).
		(3)	(4)	(34)	(35)	(36)	(37)
	(2)						
1)	Below 0.5	..	..	..	..	..	..
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (5)	Pepper.		
		Number.	Area.		Total area under the crop. (38)	Area treated with Triple Super Phosphate. (39)	Average rate of application (Kg./Hec.). (41)
(1)	(2)	(3)	(4)	(5)	(38)	(39)	(41)
1	Below 0.5	..	..	..
2	0.5-1.0	..	..	..
3	1.0-2.0	..	..	..
4	2.0-3.0	..	..	..
5	3.0-4.0	..	..	..
6	4.0-5.0	..	..	..
7	5.0-10.0	..	..	..
8	10.0-20.0	..	..	..
9	20.0-30.0	..	..	..
10	30.0-40.0	..	..	..
11	40.0-50.0	..	..	..
12	50.0 and above	..	..	..
Total		..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (5)	Conditions.			
		Number. (3)	Area. (4)		Total area under the crop. (42)	Area treated with Triple Super Phosphate. (43)	Quantity of Triple Super Phosphate applied (Kg.). (44)	Average rate of application (Kg./Hec.). (45)
(1)	(2)							
1	Below 0.5	..	..	..	
2	0.5-1.0	..	..	..	
3	1.0-2.0	..	..	..	
4	2.0-3.0	..	..	..	
5	3.0-4.0	..	..	..	
6	4.0-5.0	..	..	..	
7	5.0-10.0	..	..	..	
8	10.0-20.0	..	..	..	
9	20.0-30.0	..	..	..	
10	30.0-40.0	..	..	..	
11	40.0-50.0	..	..	..	
12	50.0 and above	..	..	..	
Total		..	..	..	

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate.	Coconut.			
		Number.	Area.		Total area under the crop.	Area treated with Triple Super Phosphate.	Quantity of Triple Super Phosphate applied (Kg.).	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(46)	(47)	(48)	(49)
1	Below 0.5	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
		Total	..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71,
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate.	Area.		
		Number.	Area.		Total area under the crop.	Area treated with Triple Super Phosphate.	Quantity of Triple Super Phosphate applied (Kg.)
(1)	(2)	(3)	(4)	(5)	(50)	(51)	(52)
							Average rate of application (Kg./Hec.)
							(53)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 47—*cont.*

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XV—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (3)	Fruits.		
		Number.	Area.		Total area under the crop. (54)	Area treated with Triple Super Phosphate. (55)	Average rate of application (Kg./Hec.) (57)
(1)	(2)	(3)	(4)	(5)	(54)	(55)	(57)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (5)	Oil seeds.		
		Number.	Area.		Total area under the crop. (58)	Area treated with Triple Super Phosphate. (59)	Quantity of Triple Super Phosphate applied (Kg.). (60)
	(2)	(3)	(4)				Average rate of application (Kg./Hec.). (61)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate.	Coffee.		
		Number.	Area.		Total area under the crop.	Area treated with Triple Super Phosphate.	Quantity of Triple Super Phosphate applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(62)	(63)	(64)
							Average rate of application (Kg./Hec.).
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 47—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of triple Super Phosphate.	Tea.		
		Number.	Area.		Total area under the crop.	Area treated with triple Super Phosphate.	Quantity of Triple Super Phosphate applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(6)	(67)	(68)
							Average rate of application (Kg./Hec.).
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970—71.
TABLE XV —cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate.	Rubber.		
		Number.	Area.		Total area under the crop.	Area treated with Triple Super Phosphate.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(70)	(71)	(72)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total ..		..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate.	Other vegetables.		
		Number.	Area.		Total area under the crop.	Area treated with Triple Super Phosphate.	Quantity of Triple Super Phosphate applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(74)	(75)	(76)
							Average rate of application (Kg./Hec.).
1	Below 0.5	..	..	..	..	..	(77)
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total ..		..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (5)	Other trees.		
		Number.	Area.		Total area under the crop.	Area treated with Triple Super Phosphate.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(78)	(79)	(81)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total ..				..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XV—cont.

Serial number	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (5)	Others.		
		Number.	Area.		Total area under the crop. (82)	Area treated with Triple Super Phosphate. (83)	Average rate of application (Kg./Hec.). (85)
(1)	(2)	(3)	(4)				
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 47—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XV—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Triple Super Phosphate. (5)	Total non-food crops.			
		Number. (3)	Area. (4)		Total area under the crop. (86)	Area treated with Triple Super Phosphate. (87)	Quantity of Triple Super Phosphate applied (Kg.). (88)	Average rate of application (Kg./Hec.). (89)
(1)	(2)							
1	Below 0.5	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..

ANNEXURE 48.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XVI—AREA TREATED WITH POTASSIC FERTILIZERS AND THE QUANTITY APPLIED FOR DIFFERENT CROPS^a ACCORDING TO SIZE DISTRIBUTION OF HOLDINGS.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Rice.				
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.).	Average rate of application (Kg./Hec.).	
(1)	(2)	(3)	(4)	(5)	HV LV	HV LV	HV LV	(12)	(13)
1	Below 0.5	..	..	..		
2	0.5-1.0	..	..	..		
3	1.0-2.0	..	..	..		
4	2.0-3.0	..	..	..		
5	3.0-4.0	..	..	..		
6	4.0-5.0	..	..	..		
7	5.0-10.0	..	..	..		
8	10.0-20.0	..	..	..		
9	20.0-30.0	..	..	..		
10	30.0-40.0	..	..	..		
11	40.0-50.0	..	..	..		
12	50.0 and above	..	..	..		
Total		..	..	..		

Note.—HV—High yielding varieties.
LV—Local varieties.

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Jowar.				Average rate of application (kg./Hec.).			
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.).					
							HYV	LV		HYV	LV	HYV	LV
(1)	(2)	(3)	(4)	(5)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1	Below 0.5	..	..	..					
2	0.5-1.0	..	..	..					
3	1.0-2.0	..	..	..					
4	2.0-3.0	..	..	..					
5	3.0-4.0	..	..	..					
6	4.0-5.0	..	..	..					
7	5.0-10.0	..	..	..					
8	10.0-20.0	..	..	..					
9	20.0-30.0	..	..	..					
10	30.0-40.0	..	..	..					
11	40.0-50.0	..	..	..					
12	50.0 and above	..	..	..					
Total ..		..	..	..				

Note.—HYV—High yielding varieties.
LV—Local varieties

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Other cereals.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(22)	(23)	(25)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Pulses.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (kg.).
(1)	(2)	(3)	(4)	(5)	(26)	(27)	(28)
							Average rate of application (kg./hec.).
				(5)	(26)	(27)	(29)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 48—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71,

TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Total food grains.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(30)	(31)	(32)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Potatoes.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(34)	(35)	(36)
							Average rate of application (kg./hec.). (37)
1	Below 0.5	..	..	..
2	0.5—1.0	..	..	..
3	1.0—2.0	..	..	..
4	2.0—3.0	..	..	..
5	3.0—4.0	..	..	..
6	4.0—5.0	..	..	..
7	5.0—10.0	..	..	..
8	10.0—20.0	..	..	..
9	20.0—30.0	..	..	..
10	30.0—40.0	..	..	..
11	40.0—50.0	..	..	..
12	50.0 and above	..	..	..
	Total	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size (in Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Pepper.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(38)	(39)	(41)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Condiments.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(42)	(43)	(45)
1	Below 0.5	..	..	..
2	0.5-1.0	..	..	..
3	1.0-2.0	..	..	..
4	2.0-3.0	..	..	..
5	3.0-4.0	..	..	..
6	4.0-5.0	..	..	..
7	5.0-10.0	..	..	..
8	10.0-20.0	..	..	..
9	20.0-30.0	..	..	..
10	30.0-40.0	..	..	..
11	40.0-50.0	..	..	..
12	50.0 and above	..	..	..
	Total	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Coconut.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(46)	(47)	(48)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 43—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Arcanaut.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(50)	(51)	(52)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Fruits.		
		Number.	Area.		Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.)	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(54)	(56)	(57)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 48—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XVI—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Pestic Fertilizer.	Oil seeds.		
		Number.	Area.		Total area under the crop.	Area treated with Pestic Fertilizer.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(58)	(59)	(61)
1	Below-0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 48—*cont.*
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XVI—*cont.*

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Coffee.				
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.).	Average rate of application (Kg./Hec.).	
									(3)	(4)	(62)	(63)	(64)	(65)
(1)	(2)			(5)					
1	Below 0.5	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Tota.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(66)	(67)	(68)
							Average rate of application (Kg./ Hec.).
							(69)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Pesticide Fertilizer.	Rubber.			
		Number.	Area.		Total area under the crop.	Area treated with Pesticide Fertilizer.	Quantity of Pesticide Fertilizer applied (Kg.).	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(70)	(71)	(72)	(73)
1	Below 0.5	..	..	..	
2	0.5-1.0	..	..	..	
3	1.0-2.0	..	..	..	
4	2.0-3.0	..	..	..	
5	3.0-4.0	..	..	..	
6	4.0-5.0	..	..	..	
7	5.0-10.0	..	..	..	
8	10.0-20.0	..	..	..	
9	20.0-30.0	..	..	..	
10	30.0-40.0	..	..	..	
11	40.0-50.0	..	..	..	
12	50.0 and above	..	..	..	
Total		..	..	..	

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970—71
TABLE XVI—cont.

Serial number	Size Class (Hectares)	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Other vegetables.		
		Number	Area		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(74)	(75)	(76)
							Average rate of application (Kg./Hec.).
				(5)	(74)	(75)	(77)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Other trees.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg.).
(1)	(2)	(3)	(4)	(5)	(78)	(79)	(80)
							Average rate of application (Kg./Hec.). (81)
1	Below 0.5	..	..	..			..
2	0.5-1.0	..	..	..			..
3	1.0-2.0	..	..	..			..
4	2.0-3.0	..	..	..			..
5	3.0-4.0	..	..	..			..
6	4.0-5.0	..	..	..			..
7	5.0-10.0	..	..	..			..
8	10.0-20.0	..	..	..			..
9	20.0-30.0	..	..	..			..
10	30.0-40.0	..	..	..			..
11	40.0-50.0	..	..	..			..
12	50.0 and above	..	..	..			..
	Total	..	..	..			..

ANNEXURE 48—cont.
TAMIL NADU AGRICULTURAL CENSUS 1970-71
TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Others.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Average rate of application (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(82)	(83)	(85)
1	Below 0.5	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
	Total	..	..	..	..	..	..

ANNEXURE 48—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71

TABLE XVI—cont.

Serial number.	Size Class (Hectares).	Total holdings.		Number of holdings reporting use of Potassic Fertilizer.	Total non-food crops.		
		Number.	Area.		Total area under the crop.	Area treated with Potassic Fertilizer.	Quantity of Potassic Fertilizer applied (Kg./Hec.).
(1)	(2)	(3)	(4)	(5)	(86)	(87)	(88)
1	Below 0.5	..	..	..	..	..	..
2	0.5—1.0	..	..	..	..	..	..
3	1.0—2.0	..	..	..	..	..	..
4	2.0—3.0	..	..	..	..	..	..
5	3.0—4.0	..	..	..	..	..	..
6	4.0—5.0	..	..	..	..	..	..
7	5.0—10.0	..	..	..	..	..	..
8	10.0—20.0	..	..	..	..	..	..
9	20.0—30.0	..	..	..	..	..	..
10	30.0—40.0	..	..	..	..	..	..
11	40.0—50.0	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..
Total		..	..	..	..	..	..

ANNEXURE 49

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XVII—INVENTORY OF CATTLE OWNED AS ON 30TH JUNE 1971.

Serial number.	Size Class (Hectares).	Total number of holdings.	Males over 3 years.				Females over 3 years.				Young stock.				Total.			
			Working.		Others.		Total.	In milks.		Others.		Total.	Young stock.					
			A	B	A	B		A	B	A	B		A	B				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTE : A.—Number of holdings reporting.

B.—Number of Cattle.

ANNEXURE 50

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XVIII. INVENTORY OF BUFFALOES OWNED AS ON 30TH JUNE 1971.

Serial number.	Size Class (Hectares)	Total number of holdings.	Males over 3 years.				Females over 3 years.				Young stock.							
			Working.		Total.	Others.		Total.	In milk.		Total.	Young stock.						
			A	B		A	B		A	B		A	B					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	Below 0.5	..																
2	0.5—1.0	..																
3	1.0—2.0	..																
4	2.0—3.0	..																
5	3.0—4.0	..																
6	4.0—5.0	..																
7	5.0—10.0	..																
8	10.0—20.0	..																
9	20.0—30.0	..																
10	30.0—40.0	..																
11	40.0—50.0	..																
12	50.0 and above	..																
Total		..																

NOTE : A.—Number of holdings reporting.

B.—Number of Buffaloes.

ANNEXURE 51.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XIX—INVENTORY OF OTHER LIVESTOCK AND POULTRY OWNED AS ON 30TH JUNE 1971.

Serial number	Size Class (Hectares).	Total number of holdings.	Sheep.						Goats.				Horses and Ponies.	
			Under 1 year.		1 year and above.		Under 1 year.		1 year and above.					
			A	B	A	B	A	B	A	B				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..	..	..	..	..	..

NOTE: A.—Number of holdings reporting.

B.—Number of Livestock/Poultry.

ANNEXURE 51—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XIX—INVENTORY OF OTHER LIVESTOCK AND POULTRY OWNED AS ON 30TH JUNE 1971—cont.

Serial number.	Size Class (Hectares).	Total number of holdings.	Mules.		Donkeys.		Camels.		Pigs.						Poultry	
			A	B	A	B	A	B	A	B	A	B	A	B		
(1)	(2)	(3)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)		
1	Below 0.5	..														
2	0.5-1.0	..														
3	1.0-2.0	..														
4	2.0-3.0	..														
5	3.0-4.0	..														
6	4.0-5.0	..														
7	5.0-10.0	..														
8	10.0-20.0	..														
9	20.0-30.0	..														
10	30.0-40.0	..														
11	40.0-50.0	..														
12	50.0 and above	..														
Total		..														

NOTE: A.—Number of holdings reporting.

B.—Number of Livestock/Poultry.

ANNEXURE 52

TAMIL NADU AGRICULTURAL CENSUS 1970-71.
TABLE XX—INVENTORY OF AGRICULTURAL MACHINERY AND IMPLEMENTS OWNED AS ON 30TH JUNE 1971.

Serial number.	Size Class (Hectares.)	Total number of holdings.	Ploughs.						Harrow and Hoes.		Seed drills.		Sprayers.		Thrashers.		Chaff cutters.		Tractors.	
			Wooden.		Iron.		A	B	A	B	A	B	A	B	A	B	A	B		
			A	B	A	B														
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		
1	Below 0.5	..																		
2	0.5-1.0	..																		
3	1.0-2.0	..																		
4	2.0-3.0	..																		
5	3.0-4.0	..																		
6	4.0-5.0	..																		
7	5.0-10.0	..																		
8	10.0-20.0	..																		
9	20.0-30.0	..																		
10	30.0-40.0	..																		
11	40.0-50.0	..																		
12	50.0 and above	..																		
Total		..																		

Note: A—Number of holdings reporting.

B—Number of Machinery and Implements.

ANNEXURE 52—cont.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XX—INVENTORY OF AGRICULTURAL MACHINERY AND IMPLEMENTS OWNED AS ON 30TH JUNE 1971—cont.

Serial number.	Size Class (Hectares).	Total number of holdings.	Pumps.		Bullock carts Cane crushers. Oil crushers. Incubators. Cream separators.												Others.	
			Electric.		Diesel.													
			A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
(1)	(2)	(3)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total		..																

Notes: A.—Number of holdings reporting.

B.—Number of Machinery and Implements.

ANNEXURE 53

TAMIL NADU AGRICULTURAL CENSUS, 1970-71.

TABLE XXI.—EXTENT TO WHICH AGRICULTURAL WORK ON THE HOLDINGS IS CARRIED OUT BY THE HOLDER'S HOUSEHOLD OR BY PERSONS WORKING FOR WAGES BY SIZE OF HOLDINGS.

Serial number.	Size Class (Hectares).	Total number of holdings.	Number of holdings on which		
			Agricultural work is done by the members of the holder's household.	Bulk of the agricultural work on the holdings is done by members of the holder's household and also by persons working for wages.	Bulk of agricultural work on the holding is done by persons working for wages.
(1)	(2)	(3)	(4)	(5)	(6)
1	Below 0.5	..	..	..	..
2	0.5-1.0	..	..	..	..
4	1.0-2.0	..	..	..	..
5	3.0-4.0	..	..	..	..
6	4.0-5.0	..	..	..	..
7	5.0-10.0	..	..	..	..
8	10.0-20.0	..	..	..	..
9	20.0-30.0	..	..	..	..
10	30.0-40.0	..	..	..	..
11	40.0-50.0	..	..	..	..
12	50.0 and above	..	..	..	..
Total	..	..	..	..	..

ANNEXURE 54

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XXII—FARM POPULATION ACCORDING TO SIZE OF HOLDINGS

[illegible]

ANNEXURE
TAMIL NADU AGRICULTURE
TABLE XXII—FARM POPULATION AND
TO SIZE OF HOLDINGS—cont.

Serial number.	Size Class (Hectares)	Total Number of holdings reporting.	Number of other persons living on the holdings.												
			Males.						Females.						
			Below 15 years.	15-55 years.	55-65 years.	65 years and above.	Total.	Below 15 years.	15-55 years.	55-65 years.	65 years and above.	Total.			
(1)	(2)	(3)	(4)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1	Below 0.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	4.0-5.0
7	5.0-10.0
8	10.0-20.0
9	20.0-30.0
10	30.0-40.0
11	40.0-50.0
12	50.0 and above
Total	

11.

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TO SIZE OF HOLDINGS—cont.

Number of other persons living on the holdings.

TAMIL NADU AGRICULTURAL CENSUS 1970-71.

TABLE XXIII—A
RELATIONSHIP OF AGRICULTURAL HOLDINGS WITH OTHER INDUSTRIES.

Serial number.	Size Class (Hectares).	Total number of holdings.	Manufacturing of dairy products.		Canning of fruits and vegetables.	Holdings associated with manufacturing of mill products.		Number of holdings producing some items under contract for the manufacturing industries.							
			Total number of holdings.	of dairy products.		Car	Others.	Total.	Sugarcane.	Vegetables.	Milk.	Poultry.	Eggs.	Others.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1	Below 0.5	..	.....	..	..	..	..	..	..	..	..	..	..	..	..
2	0.5-1.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	1.0-2.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	2.0-3.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	3.0-4.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	4.0-5.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	5.0-10.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	10.0-20.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	20.0-30.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	30.0-40.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	40.0-50.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	50.0 and above.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total		..	..	..	..	..	..	..	..	..	..	..	..	..	..