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Government of Kerala



# REPORT ON AGRICULTURE CENSUS 1995-96

VOL - I

Department of Economics & Statistics  
Thiruvananthapuram







**Government of Kerala**

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# **REPORT ON AGRICULTURE CENSUS 1995-96**

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**Thiruvananthapuram**

**2004**

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## CHAPTER – I

### INTRODUCTION

#### HISTORICAL BACKGROUND OF DEVELOPMENT OF AGRICULTURAL STATISTICS

Land revenue was the major source of income of the state for a long time. Collection of land revenue necessitated maintenance of some statistics relating to agriculture.

Collection of agricultural Statistics in India dates back to third century B.C. Later, collection of these data was done mainly as a by-product of revenue administration. In certain parts of the country, permanent settlement was introduced where private landlords came into being to whom Government granted some but not all rights of private property in land. These new landlords acted as the intermediary between the Government and the actual cultivators. This land revenue system came to be known as the Zamindari system. In other parts of the country, an entirely different land revenue system was developed wherein only temporary settlements were made. In this system is known as the Ryotwari System, the Government directly dealt with cultivators or Ryots.

After Independence the laws pertaining to land were changed with the objective of linking the cultivator and the state directly. In the states where zamindari system prevailed the new law provided for abolition of the intermediary. In the areas where Ryotwari system prevailed, the new laws aimed at providing protection to the tenants who were the actual tillers of the soil.

#### Land record states and Non land record states

A fairly comprehensive system for collection and maintenance of agricultural statistics through the land records, by the revenue machinery exists in the majority states. These states are called land record states. Detailed land records containing particulars of each plot of land in every village existed in these states. These records serve as the basis for land utilization, crop and irrigation statistics. In the states of Kerala, Orissa, West Bengal, Meghalaya, Manipur, Nagaland, Sikkim and Tripura such a system did not exist. These states are called non-land record states. The union territories only 5 have complete land records. The estimates on various para-meters, relating to agricultural statistics in the non-land record states, were framed on the basis of sample surveys or data collected annually through land utilization surveys organized by the statistics departments. The estimates so obtained at Taluk or district level could not be assured of the desired precision due to the small sampling fraction adopted for these surveys. It is in this context the Government of India came up to Finance a scheme viz. Establishment of an Agency for Reporting Agricultural Statistics (EARAS) as a part of Timely Reporting Survey (TRS) implemented in the land record states and union territories.

## Statistics of land holdings

The Agricultural statistics mostly relate to aggregate of area, production and land use at various geographical levels. They do not exhibit the characteristics of different size classes of holdings, operated under various types of tenancies, etc. The Famine Enquiry Commission of 1945 which had tried to gauge the relationship between the land tenancy system and the efficiency of agricultural production that felt handicapped due to non-availability of data on cultivators holdings and had made a number of recommendations were not implemented. In 1948 the FAO had requested Government of India to participate in the second world census of Agriculture. A Technical Committee on co-ordination of Agricultural statistics was set up by Ministry of Agriculture to look into all aspects. Even though the committee had recommended the participation of India in the second world census of Agriculture, it could not be implemented due to resource constraints. The Third World Agricultural Census was conducted in 1960-61. India was also not participated in it. However data on operational holdings were collected on a sample basis for 1950 World Census of Agriculture by National Sample Survey Organisation (NSSO) as a part of the socio-economic survey in the 8<sup>th</sup> round. The NSSO again carried out a survey of land holdings in its 16<sup>th</sup> round (July 1960, June 1961) and 17<sup>th</sup> round (September 1961 – July 1962). Because of the limited sample size these surveys were designed to provide reliable data only at National or State level and were of limited value for micro level planning. National Sample Survey Organisation had also carried out a sample survey on land holdings in its 26<sup>th</sup> and 37<sup>th</sup> rounds.

## Need for data by operational holdings

Neither the land record states nor the non land record states were collecting the information on the structure and characteristics of the operational holdings. In the context of the strategy for agricultural development, a knowledge of the detailed structure and characteristics of agricultural holding is an imperative for effective and efficient planning and implementation of programmes because the operational holding as distinct from the ownership holding is the fundamental unit of decision making in propagating the programmes of agricultural development. In the ultimate analysis it is the farmer who takes the decision what to produce when to produce and how much to produce. The various programmes and incentives meant for the farmers should take into cognizance the basic characteristics of the farmers' holdings such as size, distribution, pattern of land use, irrigation facilities and the cropping pattern, etc. in order to have maximum acceptability and gain in agricultural production. It is in this context that a census through complete enumeration holdings because important for providing necessary data on the characteristics of holding in various size classes viz. number and area of operational holdings, tenancy particulars, landwise, source wise, irrigation, cropping pattern, etc.

## **Agricultural Census**

Realising the importance of data on the structure and characteristics of agricultural holdings, the Government of India had decided to participate in the third world Agricultural Census. (Ministry of Agriculture), Government of India. Thus the first comprehensive Agriculture Census was organized in India with agricultural year 1970-71 (July to June) as the reference year. The methodology adopted for the 1970-71 agricultural census was complete enumeration by retabulation of data already available in the land record. In the states where land records were not maintained (Kerala, Orissa, West Bengal and the states and Uts in North-Eastern region) the data were collected through sample surveys. In their report the National Commission on Agriculture had recommended that the agricultural census in India be carried out at intervals of five years. Accordingly the second agricultural census was carried out with 1976-77 as the reference year. In this census, information on number and area of operational holdings was collected on complete enumeration basis in the land record states. For the other items the necessary information was collected on sample basis. In the Non-land Record states the census was carried out in the country with agricultural year 1980-81 as the reference period. It may be noted that the data for the holdings of scheduled caste and scheduled tribe were collected separately for the first time in the 1980-81 Census. The Sixth Agricultural Census was conducted with reference year 1995-96 was conducted during 1997-98. In the Sixth Agricultural Census for the first time the distribution of operational holdings and area operated are collected separately for male and female.

### **Uses of Census Data**

The data of the past Agricultural Census have been found to be extremely useful for the formulation of many schemes e.g. Small Farmers Development Agency (SFDA) programmes. The census data were also useful in the formulation of the scheme relating to Intensive Fertilizer promotion programme and other various schemes for extending subsidy on inputs and make available cheaper agricultural credit, etc. The data on weaker sections are also useful for implementing special schemes for their development and also being used by the State Government departments and researchers.

### **Organisation arrangements**

Agricultural census, a 100% centrally sponsored scheme, is a plan scheme organized and administered by the Ministry of Agriculture, Government of India. The Agricultural Census Division in the Ministry is headed by a Joint Secretary who is also designated as the Agricultural Census Commissioner. In States Member Board of Revenue/Commissioner/Secretaries of the implementing department has been declared as the State Agricultural Census Commissioner who is in overall charge of the census operations in the respective States/UTS. The senior technical Officer of the implementing department assists the State Agricultural Census Commissioner in discharging his duties

effectively. Each state is provided with a list consisting of full time technical Officers and other staff in the Head quarters to attend to the Agricultural Census work.

Agricultural Census is a multi-dimensional activity involving the active participation of various categories of primary, supervisory and administrative staff both at the center and states. The nucleus staff consisting at the headquarters for the organisation and implementation of census operation



## CHAPTER 2

### KERALA ECONOMY AND THE AGRICULTURAL CENSUS

Kerala is situated between north latitude  $8^{\circ} 18'$  and  $12^{\circ} 48'$  and east longitudes  $74^{\circ} 52'$  and  $77^{\circ} 22'$ . It is bounded on the north by the Karnataka state on the east and south by the Tamil Nadu and on the west by Arabian sea. The three district natural divisions have contributed basically to the growth of a number of agricultural crops. Plantation crops like rubber, cardamom, tea and coffee in the highland area, the midland consists of crops like paddy, coconut, pepper, ginger, sugarcane, tapioca, etc. and the lowland region with paddy, coconut and arecanut cultivation.

Being an economy based on agriculture the data generated through agricultural census on the structure and characteristics of the operational holdings particularly in respect of marginal and small holding has great importance.

#### Agricultural Census in Kerala

The Agricultural census carried out in the state, with 1970-71 as the reference period, was the first of its kind in Kerala. It was part of the 3<sup>rd</sup> decennial world census of Agriculture sponsored by F.A.O. of the United Nations. Since then Kerala has participated in all the censuses. In the first three censuses the fieldwork was done by the Village Assistant of the Revenue department. The services of the Statistical personnel in the state were also utilized for the conduct of the fieldwork. The tabulation works were done by the Department of Economics & Statistics.

#### The Sixth Agricultural Census

The Sixth Agricultural Census (1995-96) was conducted in Kerala during the period December 1997 - June 1998. The field work of the 6<sup>th</sup> census was carried out by enumerators recruited through Employment Exchange under the direct supervision of departmental field staff. The whole census operations were supervised by the nucleus staff at headquarters at Thiruvananthapuram consisting of

Joint Director	-	1
Deputy Director	-	1
Administrative Assistant/ Assistant Director	-	1
Research Assistant	-	2
Confidential Assistant	-	1
Typist	-	1
L.D. Compilers	-	2
Peon	-	1

Government of Kerala vide their G.O. (Rt) No.265/97/Plg. Dated: 20/06/97 had issued. Sanction for the implementation of this Centrally Sponsored Scheme with 100% Central Assistance.

The field work was supervised by Taluk and District Level Officers of this department under the direct control of Deputy Directors in the districts with the technical guidance from the Head office. This work was done by them in addition to their normal duties.

The field work of the Census was completed by 1998. The tabulation and processing of data was done in the computer division of the department. The preliminary report was forwarded to Government of India by December 1998. The detailed survey schedules after verification and assigning codes were handed over to computer division for data entry. The personnel from the Agricultural Census division had rendered all assistance during data entry work especially during concurrent clarification of doubts regarding filled in schedules. The first set of tables were forwarded to Government of India by 2000. The final tables were forwarded to the Director of Agricultural Census, Government of India by 2001-02. After a series of queries and clarification on the data by the Directorate of Agriculture census, Government of India, the final tables were approved by the GOI by 2003. The CD containing final tables of 1995-96 agriculture census was handed over to the state during 2003 from the Director of Agriculture Census, GOI. The final tables are generated block wise, taluk wise, district wise and for the state for all the social groups and scheduled caste, scheduled tribes and other categories separately.

## CHAPTER – 3

### COVERAGE, METHODOLOGY CONCEPTS, DEFINITIONS, SCOPE AND LIMITATIONS OF AGRICULTURAL CENSUS DATA

#### COVERAGE AND METHODOLOGY

The data of the Agricultural Census were collected through field enquiries from the selected operational holders of the sampled wards. The basic unit for the collection of data in Agricultural Census is the operational holding. The holding of the actual cultivator, not the owner is the unit for collection of data. The data for the entire land operated by the cultivator were collected and no outer limit was fixed for pooling all the parcels of an operational holding. As there are no comprehensive land records in the non-land record states, the required data were collected through sample survey by adopting enquiry method.

#### Sampling design

The Sixth Agricultural census comprised of two parts (i) Main census (1997-98) and (2) Input Survey (1998-99). Under the main census, data were collected for the following characteristics according to 10 size classes. 1. Number and area of operational holdings. 2. Tenancy. 3. Land utilization. 4. Crop wise and source wise irrigated area and 5. Cropping pattern.

For the 1995-96 census a stratified two stage sampling design was recommended in the non-land record states. The stratum was block. The first stage unit within that was the Panchayat wards and the second stage was the operational holdings. In view of the increasing demand for Agricultural Census data at Block level, it was suggested that the community Development Block should be the stratum in the rural area and Municipalities/Corporations in Urban area. From each stratum 20% of the wards in each block and 20% of the wards divisions from each Municipality/Corporation area were selected using systematic random sampling method. In total 2143 Panchayats wards and 322 Municipal wards/Corporation divisions were selected. In each selected ward all the operational holders were listed. From each selected unit 25% of the holdings in the categories below 10 hectares were selected for detailed enumeration. All the holdings in the category 10 hectares and above were enumerated for collecting details on main census.

All the data collected were estimated separately for the operational holdings of three social groups viz. scheduled caste, scheduled tribes and others.

## Field Organisation at State Level

The fieldwork was done by the Enumerates recruited from Employment Exchange. Statistical Inspectors/Taluk Statistical Officers/Additional District Officers/Price Supervisory Officers and Deputy Directors of the districts provided the leadership at the district under the technical guidance from the Head Office.

Before the commencement of the 1995-96 census, intensive training was given to all personnel involved in the field work. Wide publicity through media was also given for dispelling the fear of the farmers that they can furnish correct information to the enumerators. It was also made clear that individual information about operational holding would not be released. For the accuracy of the data intensive periodical inspections were conducted by the supervisors. Senior officers from headquarters also conducted intensive inspection.

The tabulation of the census data was done in the computer division of the department. The Senior Officers of the scheme provided necessary technical guidance in this regard. The concept and definitions adopted for the conduct of the census with detailed explanation have been included in instructions to the enumerators prepared in Malayalam. Analysis of data has been made separately for scheduled caste/scheduled tribes and other categories.

## Agricultural Census 1995-96

### Concepts and Definitions

#### 1. Operational Holdings:

All land which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone or with others without regard the title, legal form, size or location.

#### 2. 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 a labour force, machinery and animals.

#### 3. Agricultural Production

Agricultural production includes growing of field crops, fruits, grapes, seeds, tree nurseries (except those of forest trees) bulbs, vegetables and flowers, production of coffee, tea, cocoa, rubber, jute oil seeds, fodder grass, etc. If efforts is made for raising grass, it will be treated as agricultural operation.

#### 4. Operated area

Operated area would include both cultivated and uncultivated area provided part of it is put to agricultural production during the reference period. If, for instance, an operational holding consists of four survey numbers out of which one survey number is put to non-agricultural uses, the total area of the operational holding will be equal to the total geographical area of all the four survey numbers.

It would also cover the land occupied by the farm buildings, including the house of the holder, provided such buildings are within the cultivated area. If the farm buildings are located outside the cultivated area and are covered under abadi area, such building would not be included.

Operated area would exclude government forest land, government waste land, village common grazing land, abadi area, etc. If Government waste land is allotted to an individual then it will be included in the holding.

If the entire area of the holding (the area of all the survey numbers of an operational holdings) is put to non-agricultural use and /or it is under old fallow, it will not be considered as operated area. If however, the entire area of operational holding is under current fallow during the reference year, this would still be considered as operational holding.

In some cases, land is divided amongst all the members of the family, where it is divided between the husband, wife and minor children and the cultivation is being done by the husband as the head of the family, the land may appropriately be treated as one operational holding.

There might be cases where in the records, a holding is showed jointly in the name of more than one co-sharer while in fact the land may have been privately divided and the co-sharer are independently cultivating. In such cases where there is no dispute, they should be treated as many operational holdings as the number of independent cultivation.

In some States, in the Zamabandi register against a Khata, of three or four persons are shown. This does not mean that it is single holding. If in practice, all these three or four persons are actually cultivating the land independently of each other, although is no legal partition of land, from the Census point of view, this constitute three or four operational holdings.

For cultivated areas in the State Forests, no detailed land records are prepared. In the absence of revenue records and revenue agency such areas are excluded for Census purposes.



The operated area may comprise of

- (a) Land owned and self operated
- (b) Land Leased in
- (c) Land otherwise operated

**a) Land owned and self operated**

Land for whom the cultivator has the right to permanent heritable possession would be considered as owned. This would include

- (d) Land held from Government or others under grant or lease or assignment with right of permanent heritable possession with or without right of transfer
- (e) Land operated under perpetual lease.

Self-Operated land would include

- (f) Self cultivation
- (g) Land cultivated through members of the family
- (h) Land cultivated with the help of hired labour

NOTE: Land owned and self-operated should not include land leased out to others.

**b) Leased in**

Area leased in is defined as land taken on lease from others without any permanent right of possession for the lessee. Land may be leased in for:

- I Fixed money
- II Fixed produce
- III Share of produce
- IV Usufructuary mortgage

Under (iv), the ownership of the property is with the mortgager but the possession is with the mortgagee (i.e. The person to whom the mortgage is made or given). Income from the property accrues to the Mortgagee and the mortgage is terminated as soon as the full amount is released.

Other terms to be specified

**c) Area otherwise operated**

An operational Holder is the person who has the responsibility for the operation of the agricultural holding and who exercises the technical initiative and is responsible for its operation. He may have full economic responsibility or may share it with others.

The operational holder may be Individual/Joint/Institutional

a) Individual

If the holding is being operated either by one person alone or by a group of persons who are the members of the same household, it will be considered as an individual holding.

b) Joint

If two or more persons belonging to different households, share jointly as partners the economic and technical responsibility for operation of an agricultural holding, such holding would be considered as Joint holding.

c) Institutional

Holdings such as government farms, sugarcane factories farms, co-operative farms, lands managed by trust would be treated as institutional.

### Resident and Non-resident operational holder

All the cultivators residing in a particular Panchayat, Municipality / Corporation ward cultivating some land are resident cultivators of that sample ward irrespective of fact whether they are cultivating land within that village or outside. A resident cultivator may have (i) entire area of the holding located in the sample ward of his residence, (ii) partly within the sample ward of residence and partly outside; and (iii) entirely outside the ward of residence.

### Complete/Part Holding

A holding is said to be complete holding if the entire operated area of that holding is located in the same ward. If the operated area spread over in more than one ward, it would be considered as part holding.

### Wholly irrigated, Partly irrigated and wholly unirrigated holdings

If the entire net area sown in an operational holding is equal to net area irrigated, such holding is considered as wholly irrigated holding. In case part of the net sown area is irrigated, it will be partly irrigated; and if the entire sown area has not received any irrigation during the year of reference, such holding would be wholly unirrigated.

## 6. Land Utilisation

Operated area would be classified in to six broad categories:

i) Net area sown

ii) Current fallow

- iii) Fallow land other than current fallow
- iv) Other uncultivated land excluding fallow
- v) Cultivable waste; and
- vi) Not available for cultivation

**i) Net area sown**

Total area sown with crops and orchards, counting area sown more than once in the same year only once.

**ii) Current fallow**

Cropped areas, which are kept fallow during the current year. For example, if any seedling area is not cropped in the same year, it may be treated as current fallow.

**iii) Fallow other than current fallow**

All lands which are taken up for cultivation but area temporarily out of cultivation for a period of not less than one year and not more than five years. The reasons for keeping such lands fallow may be one or more of the following:

- i) Poverty of the cultivator;
- ii) Inadequate supply of water;
- iii) Malarial climate;
- iv) Silting of canals and river and
- v) Un-remunerative nature of farming.

**iv) Other uncultivated land excluding fallow**

This will include

- a) All grazing lands, whether they are permanent pastures and meadows or not. Village common grazing lands would, however, be exclude.
- b) Land under miscellaneous tree crops

Cultivable land which is not included in the net area sown but is put to some agricultural use. Land under casuarinas trees, thatching, grasses, mambo bushes and other groves for fuel which are not included under 'orchards' would be covered under this category.

**v) Cultivable Waste**

All lands available for cultivation, whether or not taken up for cultivation once but not cultivated during the current year and last five years or more in succession for one reason or the other. Such lands may be either wholly or partly covered with shrubs and jungles, which are not put to any use. Land once cultivated but not cultivated for five years in succession would also be included.

**vi) Not available for cultivation**

This would include Forest, area under non agricultural use, barren and uncultivable land.

**a) Forest**

All lands classed as 'Forests' under any legal enactment dealing with forests or administered as forests, whether State owned private and whether wooded or maintained as potential forest. The area of crops raised in the forest and grazing lands or areas open for grazing within the forests would be included under the forest area. Only private forest would be covered for the purposes of Agricultural Census.

**b) Area non-agricultural use**

All lands occupied by buildings and other lands put to uses other than agriculture, such lands within the cultivated holdings should be covered in the Census.

**c) Barren and uncultivable land**

All barren and uncultivable land within the cultivated holding.

**Limitations**

The main problem encountered during the analysis of data was under reporting. This was visible in the area reported under the operational holdings as well as the various crops. This is mainly due to the enquiry method adopted for the survey. The cultivators, the majority of them not keeping any account, were furnishing information from their memory. This resulted in incorrect information especially in the case of fertilizers and pesticides, crops for different seasons of the year, etc. The ceiling provisions of an individual family under the Kerala Land Reforms Act was another reason for under reporting by the holder of the land. In the case of mixed cropping pattern area under cultivation of different crops can be written only by counting the number of trees and then converting the same in to area using standard conversion factors. This trend of under reporting is a common feature in a census of this type since it is the only method of collection of data at micro level at lesser cost Data can be made use of after giving proper allowance to the estimates knowing the limitation and deficiencies of the census data.

## CHAPTER – 4

### RESULTS OF THE CENSUS

According to the Agricultural Census 1995-96, the total number of operational holdings in Kerala has been estimated as 62.98 lakhs out of which individual holdings accounted for 62.31 lakhs. This accounted for 98.92%. The remaining 1.08% are institutional and joint holdings. There are 2674 joint holdings reported during 1995-96 census.

The 62.98 lakhs operational holdings accounted for an operated area of 17.12 lakh hectares out of which 16.28 lakh hectares were the operational area of individual holdings. Institutional holdings, account for 1.04% of the total number of holdings, have accounted for an area of 4.70% of the total operated area in the state, showing a comparatively very high average size of the holding for them. With regard to joint holdings, 0.04% of the total number of holdings, have accounted for an area of 0.20% of the total operated area in Kerala.

For generating state wise tables the holdings were classified in to 10 size classes according to size and detailed tables in respect of the estimated number and area of operational holdings have been prepared. But for detailed discussion, comparison and analysis of the census results, these 10 size classes have been grouped up to five size groups.

1. Below 1 hectare (marginal)
2. 1 to 2 hectares (small)
3. 2 to 4 hectares (semi-medium)
4. 4 to 10 hectares (Medium)
5. 10 hectares and above (large)

#### **Type of holding**

Table IV 1 in the Appendix gives the distribution pattern of operational holdings under individual, institutional and joint. Out of the total holdings of 62.98 lakhs, the size group below 1 hect. account for 59.18 lakhs which is 93.96% of the total number of holdings. The total area operated by these holdings is 912262 hectares which works out to 53.28% of the total area. The average size of this group is 0.15 hectares. Next to marginal holders, the holders in the group of small numbering to 262291 and operated area of 349677 hectares with an average size class of 1.33 hectares. As in the case of past censuses, the larger size class constitute the lower number of operational holder and larger area of operational holding with average size of operational holding 35.41 Hector.



Table IV 1 also gives the size class wise distribution of individual, joint and institutional holders and area of operations. The individual operational holders constitute the bulk among the number (6230685) and area of operated holders (1628430 hectares) with a percentage of 98.93% number of holders and 95.11% area. The joint and institutional holders constitute the balance 1.07% in number and 4.89% in area .

The institutional holdings numbered 64955 covering an area of 80435 hectares. The maximum number of holdings (56997) and area (10528) are hectare are in the group below 1 hectare ,while the bulk of the area accounted by the Institutional holdings is in the size group of 10 hectare and above i.e. 52981 hectares. In the joint group also the number of marginal farmers (1671) constitute the chunk among of the various size classes.

### 5. Comparison with 1985-86, 1990-91 Census

A comparative analysis of 1985-86 1990-91 and 1995-96 census figures show that the total number of holdings under all categories together has increased from 48.97 lakhs in 1985-86 to 54.18 lakhs in 1990-91 to 62.98 lakhs in 1995-96 recording a percentage increase of 10.64 in 1990-91 and 16.24 in 1995-96.

As far as the number of individual holdings are concerned, the percentage increase was of the order of 10.73% in 1990-91, 16.16% in 1995-96. Institutional holdings are also increased by 22.27% in 1995-96 compared to 1990-91.

6. Another important observation is related to area of the total holdings. When the same has recorded a decrease of 4.64% in 1995-96 compared to 1.29-% increase during 1990-91. When the area verifying in the size class below 1 hectare increased, the other size classes recorded decrease.

### Average size.

**Table IV 1**  
**Average Size of Holders (1995-96)**

Size class hectare	No.of operational holders (in lakhs)	Area of operation hectares	Average size of the holder hectare	Remarks
Below 1 hectare	59.18	912262	0.15	
1 to 2 hectares	2.62	349677	1.33	
2 to 4 hectares	0.96	243682	2.55	
4 to 10 hectares	0.20	103812	5.26	
10 hectares and above	0.03	102790	35.41	
All	62.98	1712223	0.27	

The average size of an operational holding was 0.27 hectare in 1995-96. This was against 0.33 hectare in 1990-91 and to 0.36 hectare in 1985-86. The decrease in the average size of holding is most striking in the larger group, i.e. 10 hectare and above hectare, where the average size of the holding (Individual, Joint and Institutional put together) has shown a decline of 20.5 hectare. The average size in this group during 1990-91 was 55.91 hectare and in 1995-96, 35.41 hectare. Table IV.1 gives the average size of individual holdings as revealed in the census held in 1990-91 and 1995-96.

**Table IV 2**

**Average size of individual and joint holdings during 1980-81,85-86, 90-91&95-96.**

Sl. No	Size class	1980-81	1985-86	1990-91	1995-96
1	2	3	4	5	6
1	0.02-0.99	0.22	0.20	0.20	0.15
2	1.00-1.99	1.37	1.35	1.37	1.33
3	2.00 – 3.99	2.68	2.61	2.61	2.55
4	4.00 – 9.99	5.45	5.31	5.32	5.26
5	10.00 & above	35.59	42.40	55.91	35.41
<b>Total</b>		<b>0.47</b>	<b>0.40</b>	<b>0.37</b>	<b>0.27</b>

The average size of the holding has decreased in all the size class. Compared to 1990-91 there was a decline of 83367 hectare which works out to be 4.64%. the average has decreased from 0.37 hectare in 1990-91 to 0.27 hectare in 1995-96.

**Scheduled caste**

Table IV.1 (a) in the Appendix reveals the number and area operated by operational holders belonging to Scheduled Caste. The details gathered reveal that the total number of holdings in this category for all size classes increased from 522146 in 1990-91 to 579160 in 1995-96 recording increase of 57014 i.e. 10.92%. Increase in the number of operators in the size class below 1 hectare recorded 57108 operators. When there was an increase of 11.01% in the size class below 1 hectare, there was decrease of 3.72% in the size class 1 to 1.99 hectares.

Regarding area of the operational holders of this social group, the same has decreased from 50988 hectares to 47827 hectares. The average size of holdings decreased in this social group also. The decrease is 3161 hectares i.e. from 0.10% to 0.04%.

**Scheduled Tribe**

Table IV.1 (b) in the Appendix shows the number and area operated by operational holders belonging to Scheduled Tribe. The projected figures shows that the total number of holdings in this social group for all size classes increased from 65907 in 1990-91 to 72773 in 1995-96 recording an

increase in the size classes marginal and semi medium. Though there was increase in the number of operational holders, the operated area decreased from 33233 hectares in 1990-91 to 32402 hectares in 1995-96. The decrease in the small size class is 1247 hectars (10.93) and in the marginal size 905 hectars (6.02%).

A marginal decline in the average size is noted in all size classes except in the size class 10 hectares and above. The same has increased from 13.60 hectar in 1990-91 to 16.00 hectar in 1995-96.

### Distribution of holdings according to social groups

Table IV 3 below gives the number and area of operational holdings according to major social groups i.e. Scheduled Castes, Scheduled Tribes and others under different size classes. The interse percentages are given in brackets.

**Table IV 3**

### Number and area of operational holdings according to major social groups

Sl No	Size class (Ha)	Number of operational holdings				Area operated (Hectares)			
		All	SC	ST	Others	All	SC	ST	Others
1	Below 1.0	5917850 (93.96)	575698 (99.40)	62071 (85.29)	5280081 (93.51)	912262 (53.28)	42629 (89.13)	14137 (43.63)	855496 (52.42)
2	1.00 - 1.99	262291 (4.16)	2846 (0.49)	7477 (10.27)	251968 (4.46)	349677 (20.42)	3528 (7.38)	10164 (31.37)	335985 (20.59)
3	2.00 - 3.99	95532 (1.52)	551 (0.10)	3015 (4.14)	91966 (1.63)	243682 (14.23)	1326 (2.77)	7048 (21.75)	235308 (14.42)
4	4.00 - 9.99	19738 (0.31)	65 (0.01)	205 (0.28)	19468 (0.34)	103812 (6.06)	344 (0.72)	973 (3.01)	102495 (6.28)
5	10.00 & above	2903 (0.05)	0	5 (0.02)	2898 (0.06)	102790 (6.01)	0	80 (0.24)	102710 (6.29)
	All sizes	(10) 6298314 (100)	(9.20) 579160 (100)	(1.15) 72773 (100)	5646381 (89.65)	1712223 (100)	(2.79) 47827 (100)	(1.89) 32402 (100)	(95.32) 1631994 (100)

It is seen from the above Table that 99.40% of the Scheduled caste operational holders (below 1 hectares) operated 89.13% of the total area of that category, 0.49% of the holders (1.00 to 1.99 hectares) operated 7.38% of the operated area. 0.10% (2 to 3.99 hectares) operate 2.77% of the operated area, etc. With regard to scheduled tribe 85.29 % operational holders of this social group, belongs to below 1 hectare operate 43.63% of the operated area 10.27% of (in the size class 1 to 1.99 hectares) of the operational holders operate 31.37% of the area operated by them.

The concentration is higher in the marginal operators of other social group i.e. (93.51%) in number and operated area 52.42%. The other concentration is in small (1.00-1.99 hectare) operators 4.46% and semi medium (2.00 to 4.00 hectare) 1.63% operating an area of 20.59% and 14.42% respectively.

A social group wise comparison of the result shows that out of the total operational holders, scheduled caste operational holders constitute only 9.20% and scheduled tribe operational holders constitute 1.15%. 89.65% of operational holders are in other social group. Similar in the case of operational holders in the case of operated area also, i.e. scheduled caste 2.79% and scheduled tribe 1.89% operational holders of general category constitute 95.32%.

Table IV (4) shows district-wise distribution of operational holding and area according to social group. Scheduled caste operational holders are largest in Palakkad district and it is lowest in Wayanad district. Operated area is also largest in Palakkad. ST operators are highest in Wayanad and 2<sup>nd</sup> Idukki. The operational area operated by Scheduled Tribe, operational holders are highest in Idukki. Operators from other categories are highest in Thiruvananthapuram district. Whereas the operated area is highest in Palakkad districts. Table IV I (4) gives the district-wise distribution of number of operational holdings and operated area.

**Table IV 4**

**District wise Number and area of operational holdings according to major social groups**

Sl. No	District	Number of operational holdings				Area operated (Hectares)			
		SC	ST	Others	Total	SC	ST	Others	Total
1	Thiruvananthapuram	74639	3807	689704	768150	3303	1918	88394	93615
2	Kollam	57545	802	492207	550554	3348	22	87574	90944
3	Pathanamthitta	32733	449	258575	291757	2433	99	87812	90344
4	Alappuzha	36155	33	406602	443779	2620	33	80728	83381
5	Kottayam	24142	4566	361045	389753	2050	2455	134575	139080
6	Idukki	38222	14410	231301	283933	5541	7901	121855	135297
7	Ernakulam	53724	900	553396	608020	3364	164	129499	133027
8	Thrissur	67571	579	538719	606869	4359	95	135625	140079
9	Palakkad	75612	8738	403754	488104	6062	7186	180240	193488
10	Malappuram	51019	1552	515342	567913	4484	341	143688	148513
11	Kozhikode	29183	3773	488625	521581	2608	957	106906	110471
12	Wayanad	3208	22437	129715	155360	686	6551	87991	95228
13	Kannur	16126	4606	400603	421335	2672	1998	154749	159419
14	Kasaragod	19281	5132	176793	201206	4297	2682	92358	99337
	<b>State</b>	<b>579160</b>	<b>72773</b>	<b>5646381</b>	<b>6298314</b>	<b>47827</b>	<b>32402</b>	<b>1631994</b>	<b>1712223</b>

**Tenancy Status.**

Table IV 2 gives the distribution of number of holdings and area operated according to tenancy status.

## Distribution of Number of holdings and area operated according to tenancy statistics

### Table IV 2 A

Sl. No	Category of holdings and size group (Ha)	Number of holdings				Area operated (in hectares)			
		Wholly owned and self operated	Wholly leased in	Wholly other wise operated	Partly owned, partly leased in and partly other wise operated	Wholly owned and self operated	Wholly leased in	Wholly otherwise operated	Partly owned, partly leased in and partly other wise operated
1	2	3	4	5	6	7	8	9	10
1	Marginal 0.02-0.99	5907102	622	6072	4054	909674	200	861	1713
2	Small 1.00-1.99	260469	23	296	1503	347037	25	353	2126
3	Semi-medium 2.00-3.99	94597	38	19	878	241478	82	39	2363
4	Medium 4.00-9.99	19476	40	21	201	102367	219	111	1115
5	Large 10 & above	2810			93	100952			1508
6	All categories	6284454	723	6408	6729	1701508	526	1364	8825

Regarding the tenancy status of operational holding out of the total (6298314) operational holding 6284454 (99.78%) are wholly owned and self-operated holding. The percentage of area 99.37%. Wholly leased in, wholly otherwise operated and partly owned and partly leased in and partly otherwise operated area is only 10715 hectare. The percentage of area is 0.63. The size class wise composition of the number of operational holding wholly owned and self operated is in marginal 94.00%, small 4.14%, semi medium 1.51%, Medium 0.31% larger and above 0.04%. 53.46% of wholly owned operated area is in the size class below 1 hectare, 20.40% area is in the size class of 1.00 to 2.00 hectare, 14.19% is semi-medium (2.00-4.00), 6.02% comes under Medium size class and 5.93% is in larger and above size class. The leased in operational holding is only 723 numbers which is only 0.01% of the total operational holding of the state. This reveals that the leased cultivation is very rare in the state. Wholly otherwise operated, partly owned partly based in and partly other-wise operated numbers, 13215 which is only 0.21%.



## Distribution of leased area by terms of leasing

Table IV 2 B

Sl. No	Category of holdings and size groups (Ha)	Area leased in for (in hectares)					Total
		Fixed money	Fixed produce	Share of produce	Usufructuary mortgage	Other terms	
1	2	3	4	5	6	7	8
1	Marginal	326	27	216	33	247	853
2	Small	322	83	132	7	37	581
3	Semi-medium	411	0	82	123	31	647
4	Medium	509	7	44	0	209	766
5	Large 10 & above	615	0	87	0	0	702
6	All categories	2183	117	561	163	524	3548

Regarding the structure of leasing, leased cultivation of area on fixed money constitute the majority 61.53%. Fixed produce and share of produce comes only 19.10% hecter. Under usufructuary mortgage 163 hecters of operated area are in the group. Area under other terms of leasing area 524 hecters i.e. 14.77%. Higher is the concentration of area under larger and above group who operate as fixed money (615 hecter).

### Land utilisation

Table 9 in the appendix gives the result of land utilisation revealed in the 6<sup>th</sup> Agricultural Census. The Total enumerated area comes to 1712223 hecter. Other uncultivated land excluding fallow land, fallow land other than current fallow, cultivable waste land and land not available for cultivation is 243344 hecter.

### Comparison with previous census.

Table IV 3 below gives the statement of land utilisation with comparisons with the previous censuses. The land utilisation of the Agricultural Census 1995-96 reveals that 84.48% of the area used for cultivation during the census period. Which is 2.60% lower than the last census (87.08%). Land not available for cultivation has increased by 2.54% than the last census. Due to infrastructural development and industrialization the land available for cultivations has decreased by 2.54% than the last census.

Table IV 3

**Land utilization pattern**  
(Area in Hectares)

Sl. No.	Category of holdings	1985-86		1990-91		1995-96	
		Area	Percentage	Area	Percentage	Area	Percentage
1	2	3	4	5	6	7	8
1	Net area sown	1542783	87.33	1556284	87.08	1446571	84.48
2	Area under current fallow	26064	1.48	19928	1.11	22308	1.30
3	Other uncultivated land excluding fallow land	21976	1.24	19165	1.07	24195	1.41
4	Fallow land other than current fallow	23228	1.32	20625	1.15	15729	0.93
5	Cultivable waste land	31450	1.78	27500	1.54	22146	1.29
6	Land not available for cultivation	121094	6.85	143788	8.05	181274	10.59
<b>Total area of holdings</b>		<b>1766595</b>	<b>100</b>	<b>1787290</b>	<b>100</b>	<b>1712223</b>	<b>100</b>

The Census results reveals that out of the total area of 1712223 hectare, net cultivated area is 1468879 hectares, which is 85.79% of the total operated area. Land not available for cultivation is only 10.59%. Compared with the result of last census of 1985-86 and 1990-91, the net area sown has decreased from 87.33% in 1985-86 to 87.08% in 1990-91 and it is only 84.48% in 1995-96. No substantial increase or decrease is noticed in the land utilisation of current fallow land, other uncultivated land excluding fallow land, fallow other than current fallow and cultivable waste. Land not available for cultivation have increased from 6.85% in 1985-86 to 8.05% in 1990-91 to 10.59% in 1995-96.

Analysing the structure of land utilisation against the total operated area in each district (table IV 9(a)) it is observed that out of the total operated area, net area sown is highest (91.95%) in Idukki, while it is lowest in Malappuram district.

In Thiruvananthapuram district 83.27% area is sown during 1995-96. Land not available for cultivation is highest in Thiruvananthapuram. The census reveals that 5.98% of land in Idukki is not available for cultivation. Among the fourteen districts operated is highest in Palakkad but some area is only 80.69%. Current fallow is also largest in Palakkad.

**Table IV 4**  
**District wise distribution of Land Utilisation**  
**(Area in Hectares)**

All social groups

Sl. No.	District	Net area sown	Current fallow	Other uncultivated land	Fallow land other than current fallow	Culti-vable waste	Land not available for cultivation	Total
1	2	3	4	5	6	7	8	9
1	Thiruvananthapuram	77951	584	672	76	467	13865	93615
2	Kollam	76887	358	804	526	424	11945	90944
3	Pathanamthitta	77497	888	302	874	171	10612	90344
4	Alappuzha	68989	1243	1241	799	943	10166	83381
5	Kottayam	123225	1031	322	387	481	13634	139080
6	Idukki	124400	813	908	384	703	8089	135297
7	Ernakulam	110030	1294	1144	1030	1665	17864	133027
8	Thrissur	114926	967	2415	1765	1365	18641	140079
9	Palakkad	156125	4709	6075	4446	5550	16583	193488
10	Malappuram	118484	3969	3536	1903	3009	17612	148513
11	Kozhikode	96392	615	1121	361	692	11290	110471
12	Wayanad	85012	1801	636	513	890	6376	95228
13	Kannur	136601	2318	1473	1665	2889	14473	159419
14	Kasaragod	80052	1718	3546	1000	2897	10124	99337
	<b>State</b>	<b>1446571</b>	<b>22308</b>	<b>24195</b>	<b>15729</b>	<b>22146</b>	<b>181274</b>	<b>1712223</b>

A comparative analysis of district wise percentage distribution of land utilisation Table 3(c) of appendix with the data of previous census shows that no abnormal variation is noticed in net area sown during 1985-86, 1990-91 and 1995-96. It is almost same in all the districts during the previous census. Some variation is noticed between districts in the case current fallow in the result of 1985-86, 1990-91 and 1995-96 census. Current fallow is highest in Palakkad in all the census (21.32%, 21.76% and 21.11%). It is least in Kollam (1.27%, 1.38 and 1.61%). Palakkad district is having highest percentage in other uncultivated land, fallow land and land not available for cultivation in all the census of 1985-86, 1990-91 and 1995-96. Percentage variation is very small in various land utilisation in all the census.

Table 10 in the appendix reveals the percentage of area under main land use to total operated area by district 1985-86, 1990-91 and 1995-96. Out of the total operated area in the state 88.81% of

land is cultivated area in 1985-86 88.19% is in 1990-91 and 85.79% during 1995-96 respectively. Uncultivated land is 4.34%, 3.76% and 3.63% in the state during 1985-86, 1990-91 and 1995-96. Land not available for cultivation is 6.85%, 8.05% and 10.59% in the State.

District wise percentage variation is not much in the case of net cultivated area, where as decrease is noticed in cultivated land in Thiruvananthapuram, Kollam, Pathanamthitta, Kottayam, Idukki and Kozhikode districts compared to previous census. Uncultivated land increased in Palakkad district by 2.64% than last census. In Kasaragod district uncultivated land decreased by 3.19% in 1990-91 but increased by 0.67% during 1995-96. There is an increasing tendency of land not available for cultivation in all the districts as revealed in the 1985-86, 1990-91 and 1995-96 census. This may be due to the infrastructure development, industrialisation and increase in residential area.

### Size class

**Table IV 5**

**Percentage of area under main land use to the total operated area by the State  
1985-86, 1990-91 and 1995-96**

Sl. No	Size class (Hectares)	Percentage of area under											
		Net cultivated area			Uncultivated land			Land not available for cultivation			Total		
		1985-86	1990-91	1995-96	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Marginal (0.02-0.99)	86.65	86.18	82.69	3.79	2.82	3.12	9.56	11.00	14.19	100.00	100.00	100.00
2	Small (1.00-1.99)	91.39	91.57	89.89	4.17	3.38	3.52	4.44	5.05	6.59	100.00	100.00	100.00
3	Semi medium (2.00 - 3.99)	91.33	91.38	89.47	4.52	3.95	4.06	4.15	4.67	6.47	100.00	100.00	100.00
4	Medium (4.00 - 9.99)	89.59	89.26	89.37	5.80	5.04	4.51	4.61	5.70	6.12	100.00	100.00	100.00
5	Large (10.00 & above)	88.66	85.31	87.02	5.91	8.02	6.53	5.43	6.63	6.45	100.00	100.00	100.00
	<b>All sizes</b>	<b>88.81</b>	<b>88.19</b>	<b>85.79</b>	<b>4.34</b>	<b>3.76</b>	<b>3.62</b>	<b>6.85</b>	<b>8.05</b>	<b>10.59</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

The size class wise analysis (Table IV 5) of land utilisation with the comparison of data of earlier census reveals that the percentage composition of net cultivated area, uncultivated land, land not available for cultivation, it is seen that net cultivated area is higher (80 to 90%) in all the size classes. Higher is the percentage in small, semi medium and medium size class during the 4th, 5th and

6th census as is in the case of district wise distribution. The percentage distribution is almost uniform in all the censuses in all size classes except large (6.53%) in the case of uncultivated land. Land not available for cultivation showing an increasing tendency. It was 9.56% during 1985-86, 11.00% in 1990-91 and 14.19% in 1995-96 in marginal group, 4.4% in 1985-86, 5.05% in 1990-91 and 6.59% in 1995-96 under small, 4.15% in 1985-86, 4.67% in 1990-91 and 6.47% in 1995-96 under semi medium.

The percentage of net cultivated area of all size class during 1985-86 was 88.81%, 88.19% during 1990-91 and 85.79% during 1995-96, the percentage of uncultivated land was 4.34%, 3.76% and 3.62% during 1985-86, 1990-91 and 1995-96 respectively. Land not available for cultivation was 6.85%, 8.05%, 10.59% during 1985-86, 1990-91 and 1995-96 respectively.

**Table IV 6**

**Percentage of net cultivated area, total uncultivated area and land available for cultivation in 1985-86, 1990-91 & 1995-96**

Sl. No	Size class (Hectares)	Net cultivated area			Uncultivated land			Land not available for cultivation		
		1985-86	1990-91	1995-96	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96
1	2	3	4	5	6	7	8	9	10	11
1	Marginal (0.02-0.99)	44.73	46.83	51.36	40.05	35.88	45.86	44.51	46.38	71.44
2	Small (1.00-1.99)	22.27	22.28	21.39	20.78	19.25	19.85	22.20	22.15	12.70
3	Semi medium (2.00 - 3.99)	15.80	14.78	14.86	16.01	14.99	15.97	15.81	14.79	8.71
4	Medium (4.00 - 9.99)	7.47	6.47	6.32	9.89	8.55	7.55	7.58	6.56	3.50
5	Large (10.00 & above)	9.73	9.64	6.07	13.27	21.33	10.77	9.90	10.12	3.65
<b>All sizes</b>		<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Table IV 6 is percentage of net cultivated area, total uncultivated area and land available for cultivation in 1985-86, 1990-91 and 1995-96. The percentage of contribution of net cultivated area, uncultivated land and land not available for cultivation among various size class group shows that marginal cultivate constitute the largest group. It was increasing during every census, i.e. it was 44.73% during 1985-86, 46.835 during 1990-91 and 51.36% during 1995-96, which means that sub division and fragmentation of operational holding is higher in the State. Net cultivated area is decreasing in all other size groups compared to previous census. Under medium and large it is only



6.32% and 6.07% during 1995-96 census. The percentage of uncultivated land and land not available for cultivation in marginal size class is higher than that from of cultivated land.

### **Cropping Pattern.**

Gross cropped area enumerated during the 6th Agriculture Census were 2114439 hectares. The cropping pattern is entirely different in the state compared to other Indian States. Food crops are cultivated mainly along with commercial crops are also cultivated in the same land. Multiplicity of crops and intensity of cropping exists in the state. In the same plot both seasonal, annual and perennial crops are cultivated. Totally there are 88 crops covered in the census. However data on the selected crops are collected for analysing crops wise percentage distribution of gross cropped area during 1985-86, 1990-91 and 1995-96 reveals that paddy cultivated area decreased from 18.24% in 1985-86 to 16.08% in 1990-91 to 12.06% in 1995-96. The percentage of coconut cultivated area increased from 23.04% in 1985-86 to 31.36% in 1995-96. Percentage of Rubber cultivated area also shows an increase. The percentage of other principal crops are, tapioca 2.34%, Cashew 3.55% pepper 7.61%, Coffee 3.84%. Arecanut 3.57%, Banana 5.59%. The remaining crops are grouped into others and its percentage share is 10.09%-Table-12.

While looking into percentage distribution of area under principal crops in different size classes during the 1995-96 census (table IV 13) it is seen that marginal operators contributes larger percentage of area under paddy (41.00%), Coconut (69.97%) Tapioca 70.75%, Rubber (38.82%) Cashew (46.18%) Pepper (53.45%) Coffee (36.73%) Arecanut (53.29%) Mango (78.46%) and Banana 69.64. The percentage of small, semi medium cultivators cultivating the above crops are almost same. Whereas tea is a plantation crops contributing 67.79% of area under larger size class.

District wise intensity of cropping is analysed in table IV 14. Intensity of cropping refers to the ratio of gross cropped area and net area sown. The state intensity of cropping is 1.46. Intensity of cropping is highest in Idukki whereas it is lowest in Kasaragod. The percentage of Gross cropped area in the State to each district varies from 4.49% to 10.80% in various districts. Percentage of Gross cropped area is lowest in Alappuzha but it is highest in Palakkad.

An analysis of gross area under selected crops in the state in size class wise distribution shows coconut occupies 1st position among selected crops followed by rubber and paddy. Though tea is a plantation crops, the percentage of gross cropped area of tea under all sizes class is less than 1 per cent. However the percentage under larger group is 9.11%.

### **Irrigation Status.**

In the Agricultural Census 1995-96 details of irrigation was also collected. Of the total holdings 409951 are fully irrigated. Partly irrigated holdings comes to 1164294. The net area sown

during 1995-96 is 1446571 hector and the area fully irrigated comes to 70938 and partly irrigated area comes to 269866. Hence the total net area irrigated fully and partially comes to 340804 hector. Inter cropping and multiple cropping is the special feature of cropping pattern in Kerala. On the same agricultural holding certain crops area irrigated where as some other crops are not irrigated. The gross cropped irrigated area comes to 388418 hectares, unirrigated cropped area as revealed in the 6th Agricultural Census was 1726021 hector.

The comparison of district wise distribution of wholly irrigated holdings partly irrigated holdings and wholly unirrigated holdings through census i.e. 4th, 5th & 6th censuses is given under table 16. The table reveals that percentage number of wholly irrigated holdings are increasing in the state after each census; i.e. 1.71% in 1985-86, 2.16% in 1990-91 and 4.90% in 1995-96. Partly irrigated holdings were 33.77%, 36.51% and 37.73% respectively. The partly irrigated area comes to 14.63%, 16.80% & 18.66% respectively in each census. In the state out of the total net area sown from net irrigated area was 16.34% in 1985-86, 18.96% in 1990-91 and 23.56% in 1995-96 wholly unirrigated holdings were 64.52% in 1985-86, 61.33% in 1990-91 and 57.37% in 1995-96.

Analysing the sources of irrigation to different size classes compared with the result of previous census the percentage of irrigated area is higher in marginal followed by small, semi medium, medium and large from all sources, viz. Canal, Tank, Well, Tube well and other sources. This characteristic is same during the earlier census results also. Among the various sources, well and tube well is highest in marginal size class, i.e. 52.15%, 55.02%, 55.10% and 30.48%, 53.26%, 54.54% during 1985-86, 1990-91 and 1995-96 respectively. Table 16(a) in the appendix given various percentages of source wise and size class wise irrigation during 4th, 5th & 6th census.

Table 16 (b) shows the percentage distribution of irrigation from different source, to various size classes. Canal irrigation is the largest source of irrigation. The census result reveals that tube well irrigation percentage is least in the State in all the periods of census. It is only 0.93% during 1985-86, 1.49% during 1990-91 and 5.39% during 1995-96. The details of percentage distribution from different sources of irrigation to different size classes are appended table 16(b).

Table 16(c) shows the district wise page distribution of holdings receiving irrigation by different sources. The different sources listed are canal tank, well, tube wells and other sources. Out of the 1574245 irrigated holdings canal irrigated holdings are 145132, tank irrigated holdings are 109612 well irrigated holdings are 938228 tube well irrigated holdings are 122216 and irrigation from other sources comes to 378117. Percentage distribution of the above sources to each district is in table 16 (c).

There are different sources of irrigation, viz. canal, tank, well, tube well and other sources. The distribution of district wise area irrigated by different sources revealed from 1995-96 is given

under table 16(d). The percentage of canal irrigated area is largest in Palakkad (56.76%) district and lowest in Kollam (0.21%) district. Tank irrigated area is largest in Kasaragod (19.42%). Among the districts used for wells for irrigation purposes, Thrissur stands first 25.89%. In Pathanamthitta district 0.67% of cultivated area is irrigated from wells. In Wayanad 0.47% of cropped area is irrigated from wells. Tube wells irrigated area is highest in Thrissur 23.74%. It is below 1% in Thiruvananthapuram (0.50%), Kollam (0.76%), Pathanamthitta (0.77%) and Wayanad (0.17%) districts. Irrigation from other sources is prominent in Alappuzha (20.78%) where as it is also below one percent in Thiruvananthapuram (0.19%) and Kollam (0.78%) districts. The distribution of district wise area irrigated by different sources is given in table 16 (d) in appendix.

Well-irrigated holdings are largest in the State (55.41%). Regarding the district wise position of holdings receiving irrigation from, various sources canal irrigation is highest in Wayanad ie. 23.05%. It is 19.89% in Palakkad and 12.68% in Pathanamthitta. Tank irrigation in Alappuzha ie.15.74%. Holdings receiving irrigation from well is common in almost all districts except Wayanad, where the percentage of holdings receiving from well is only 7.69%. The holdings receiving irrigation is highest percentage in Alappuzha is district from tube well (18.50%) and it is below 1.00% in Kozhikode and Wayanad districts. The percentage of holdings receiving irrigation from other sources is 59.68% in Wayanad, 56.58% in Idukki. In the state 22.33% of holdings are irrigated from other sources. Table 16 (c).

A comparative analysis of percentage of area irrigated from different sources in each district during 1985-86, 1990-91 and 1995-96 are given in table 16 (f). The census reveals that in the State the percentage of canal irrigated area is decreasing. The percentage of well-irrigated area is almost same during 1985-86, and 1990-91 but it rose during 1995-96. Tube well irrigation is not prominent during 1985-86 and 1990-91 census. The district wise percentage of area irrigated from different sources are given in table 16 (f).

### **Irrigation Source.**

Table 16 (g) gives the number of wells and tube wells used for irrigation. There are 540740 wells and 122361 tube wells with pump set and 426656 wells without pump set used for irrigation in the state as revealed in the census during 1995-96. Out of the total number of wells used for irrigation 512806 are electric connected and 27934 are diesel connected. Tube wells connected with electricity are 118861 and diesel tube wells are 3502. There are 460440 wells connected with pump set 391102 wells without pumpset and 109778 tube wells used for irrigation in marginal size class. The total number of holdings in this size class are 5917850 i.e., 93.96% out of that 1385325of holdings are irrigated . Under large size class (10.00 hector and above) there are 1195 wells and tube well used for irrigation.

*Distribution of district wise number of wells and tube wells* are given in table 16 (h). the largest number of wells with pump set are in Thrissur (140285) district and lowest in Wayanad (730)district. Wells without pump set are also higher in Thrissur (65281). Majority of wells with pump set is electric connected. Wells with diesel pump set are 27934 in the State. Tube wells are largest in Alappuzha (40479) district. Electric connected tube wells are highest in Alappuzha (39963) and diesel connected tube wells are highest in (1071) Malappuram. The district wise distribution of wells and tube wells with pump set and without pump set are given in table 16 (h).

### **Intensity of irrigation**

Table 17 reveals the intensity of irrigation. The intensity of irrigation is measured as a ratio of gross irrigated area to net irrigated area and is expressed as a percentage. The census reveals that the percentage of intensity of irrigation is 113.97. The intensity of irrigation during 1990-91 census was 135.37%. The distribution among various size class is almost same. It is 114.91 percent in marginal size class. The intensity of irrigation shows a decreasing trend when compared with the result of earlier census.

The district wise percentage distribution of gross cropped area according to irrigation status (table 17(a)) shows that percentage of irrigated area in the State is only 18.3. The unirrigated area is 81.63% out of the gross cropped area. The area is highest in Thrissur (47.48%) and lowest in Kollam (3.44%). Out of the Gross Cropped are 43.01% is irrigated in Alappuzha district.

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**IV 1. Number and area of operational holdings**  
(Area in Hectares)

*All social groups*

Sl.No	Size class (Hectares)	Individual holdings						Joint holdings					
		Number			Area			Number			Area		
		1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Below 1.00	5859182	4969156	17.91	900796	855336	5.31	1671	1274	31.16	938	421	122.80
2	1.00 - 1.99	257676	275779	-6.56	343372	377962	-9.15	558	185	201.62	797	253	215.02
3	2.00 - 3.99	93039	95831	-2.91	237286	249970	-5.07	330	98	236.73	859	247	247.77
4	4.00 - 9.99	18614	20520	-9.29	97287	108801	-10.58	105	46	128.26	644	257	150.58
5	10.00 & above	2174	2411	-9.83	49689	55870	-11.06	10	5	100.00	120	61	96.72
6	All sizes	6230685	5363697	16.16	1628430	1647939	-1.18	2674	1608	66.29	3358	1239	171.03

Sl No	Institutional holdings						Grand Total						Average size of holdings	
	Number			Area			Number			Area			1995-96	1990-91
	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91
1	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	56997	45839	24.34	10528	8986	17.16	5917850	5016269	17.97	912262	864743	5.50	0.15	0.17
2	4057	3774	7.50	5508	5230	5.32	262291	279738	-6.24	349677	383445	-8.81	1.33	1.37
3	2163	1821	18.78	5537	4783	15.76	95532	97750	-2.27	243682	255000	-4.44	2.55	2.61
4	1019	920	10.76	5881	5263	11.74	19738	21486	-8.14	103812	114321	-9.19	5.26	5.32
5	719	769	-6.50	52981	122150	-56.63	2903	3185	-8.85	102790	178081	-42.28	35.41	55.91
6	64955	53123	22.27	80435	146412	-45.06	6298314	5418428	16.24	1712223	1795590	-4.64	0.27	0.33

**IV 1 (a). Number and area of operational holdings**  
(Area in Hectares)

Scheduled Caste

Sl.No	Size class (Hectares)	Individual holdings				Joint holdings				Area	Percent- age variation	
		Number		Area		Number		Area				
		1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91			
1	2	3	1	5	6	4	5	6	10	12	73	14
1	Below 1.00	575583	518442	11.02	42610	45416	-6.18	115	148	19	27	-29.63
2	1.00 - 1.99	2846	2956	-3.72	3528	3782	-6.72	0	-	0	-	-
3	2.00 - 3.99	551	550	0.18	1326	1482	-10.53	0	5	0	12	-100.00
4	4.00 - 9.99	65	40	62.50	344	208	65.38	0	-	0	-	-
5	10.00 & above	0	5	-100.00	0	61	-100.00	0	-	0	-	-
6	All sizes	579045	521993	10.93	47808	50949	-6.16	115	153	19	39	-51.28

Sl No	Institutional holdings				Grand Total				Average size of holdings					
	Number		Area		Number		Area		1995-96	1990-91				
	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96				
1	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	-	-	-	-	-	-	575698	518590	-11.01	42629	45443	-6.19	0.08	0.09
2	-	-	-	-	-	-	2846	2956	3.72	3528	3782	-6.72	1.19	1.28
3	-	-	-	-	-	-	551	555	0.72	1326	1494	-11.24	2.39	2.69
4	-	-	-	-	-	-	65	40	-62.50	344	208	65.38	8.60	5.20
5	-	-	-	-	-	-	0	5	100.00	0	61	-100.00	0.00	12.20
6	-	-	-	-	-	-	579160	522146	-10.92	47827	50988	-6.20	0.09	0.10



**IV 1 (b) Number and area of operational holdings**  
(Area in Hectares)

Scheduled Tribe

Sl.No	Size class (Hectares)	Individual holdings				Joint holdings							
		Number		Area		Number		Area					
		1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Below 1.00	61981	54945	12.81	14094	15036	-6.26	90	30	200.00	43	6	616.67
2	1.00 - 1.99	7472	8533	-12.43	10158	11398	-10.88	5	10	-50.00	6	13	-53.85
3	2.00 - 3.99	2980	2094	42.31	6954	5089	-36.65	35	-	-	94	-	-
4	4.00 - 9.99	200	285	-29.82	943	1555	-39.36	5	0	-	30	0	-
5	10.00 & above	5	10	-50.00	80	136	-41.18	0	-	-	0	-	-
6	All sizes	72638	65867	10.28	32229	33214	-2.97	135	40	237.50	173	19	810.53

Sl.No	Institutional holdings				Grand Total				Average size of holdings					
	Number		Area		Number		Area		1995-96	1990-91				
	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91	Percent-age variation	1995-96	1990-91			
1	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	-	-	-	-	-	-	62071	54975	12.91	14137	15042	-6.02	0.23	0.27
2	-	-	-	-	-	-	7477	8543	-12.48	10164	11411	-10.93	1.36	1.34
3	-	-	-	-	-	-	3015	2094	43.98	7048	5089	38.49	2.34	2.43
4	-	-	-	-	-	-	205	285	-28.07	973	1555	-37.43	4.75	5.46
5	-	-	-	-	-	-	5	10	-50.00	80	136	-41.18	16.00	13.60
6	-	-	-	-	-	-	72773	65907	10.42	32402	33233	-2.50	0.45	0.50

**IV 2. Distribution of District wise number of operational holdings by size class**  
(Area in Hectares)

Sl No	Category/ Size class (Ha)	<i>Total</i>														
		Thiruvananthapuram	Kollam	Pathanamthitta	Alappuzha	Kottayam	Idukki	Ernakulam	Thrissur	Palakkad	Malappuram	Kozhikode	Wayanad	Kannur	Kasaragod	State
1	2	3	4	5	6	-	8	9	10	11	12	13	14	15	16	17
1	Below 1.00	757632	538462	275764	430485	352247	246416	580638	579618	435748	536354	501339	129116	380494	173537	5917850
2	Small 1.00-1.99	8385	9860	12688	9485	25155	25473	19217	19343	32117	21396	14976	17272	27653	19271	262291
3	Semi-medium 2.00-3.99	1806	1994	2832	2953	9480	9822	6560	6863	15428	8353	4549	7099	11098	6695	95532
4	Medium 4.00-9.99	272	213	423	711	2442	1674	1353	895	4335	1644	625	1578	1975	1598	19738
5	Large 10 & above	55	25	50	145	429	548	252	150	476	166	92	295	115	105	2903
6	All categories	768150	550554	291757	443779	389753	283933	608020	606869	488104	567913	521581	155360	421335	201206	6298314

**IV 2(a) Distribution of District wise number of operational holdings by size class**

Sl No	Category/ Size class (Ha)	<i>Scheduled Caste</i>														
		Thiruvananthapuram	Kollam	Pathanamthitta	Alappuzha	Kottayam	Idukki	Ernakulam	Thrissur	Palakkad	Malappuram	Kozhikode	Wayanad	Kannur	Kasaragod	State
1	2	3	4	5	6	-	8	9	10	11	12	13	14	15	16	17
1	Below 1.00	74574	57385	32658	36070	24061	37218	53639	67419	75168	50747	29099	3075	15849	18736	575698
2	Small 1.00-1.99	55	145	65	70	76	849	65	106	344	207	79	78	212	495	2846
3	Semi-medium 2.00-3.99	10	15	10	15	5	150	10	41	90	65	5	55	45	35	551
4	Medium 4.00-9.99	0	0	0	0	0	5	10	5	10	0	0	0	20	15	65
5	Large 10 & above	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	All categories	74639	57545	32733	36155	24142	38222	53724	67571	75612	51019	29183	3208	16126	19281	579160

**IV 2(b) Distribution of District wise number of operational holdings by size class**

Sl No	Category/ Size class (Ha)	Scheduled Tribe														
		Thiruvananthapuram	Kollam	Pathanamthitta	Alappuzha	Kottayam	Idukki	Ernakulam	Thrissur	Palakkad	Malappuram	Kozhikode	Wayanad	Kannur	Kasaragod	State
1	2	3	4	5	6	-	8	9	10	11	12	13	14	15	16	17
1	Below 1.00	3380	802	439	1022	3695	11434	900	569	5668	1502	3623	20939	3856	4244	62071
2	Small 1.00-1.99	322	0	10	0	705	1855	0	10	1885	30	125	1100	639	798	7477
3	Semi-medium 2.00-3.99	105	0	0	0	148	1123	0	0	1060	20	20	353	106	80	3015
4	Medium 4.00-9.99	0	0	0	0	20	0	0	0	125	0	5	40	5	10	205
5	Large 10 & above	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5
6	All categories	3807	802	449	1022	4566	14410	900	579	8738	1552	3773	22437	4606	5152	72773

**IV 3. District wise distribution of area of operational holdings by size class (Area in Hectares)**

Sl no	Category/ Size class (Ha)	All social groups														
		Thiruvananthapuram	Kollam	Pathanamthitta	Alappuzha	Kottayam	Idukki	Ernakulam	Thrissur	Palakkad	Malappuram	Kozhikode	Wayanad	Kannur	Kasaragod	State
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Below 1.00	76113	71768	54590	56995	61145	53966	68533	85482	71873	84733	73336	32225	78900	42790	912449
2	Small 1.00-1.99	10611	12669	16676	12752	33800	33324	25419	25477	43987	28397	19843	23212	37348	26026	349541
3	Semi-medium 2.00-3.99	4443	4939	7139	7733	24264	23733	16631	19389	40334	21172	11306	18046	28235	16597	243961
4	Medium 4.00-9.99	1449	1110	2337	3837	12842	9047	6851	4772	22713	8752	3283	8602	10051	8160	103812
5	Large 10 & above	999	452	9602	2064	7029	15227	15593	4959	14581	5459	2703	13143	4885	5764	102460
6	All categories	93615	90944	90344	83381	139080	135297	133027	140079	193488	148513	110471	95228	159419	99337	1712223

**IV 3 (a). District wise distribution of area of operational holdings by size class  
(Area in Hectares)**

Sl No	Category/ Size class (Ha)	Scheduled Caste														
		Thiruvananthapuram	Kollam	Pathanamthitta	Alappuzha	Kottayam	Idukki	Ernakulam	Thrissur	Palakkad	Malapuram	Kozhikode	Wayanad	Kannur	Kasaragod	State
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Below 1.00	3211	3139	2333	2494	1937	4119	3203	4091	5350	4086	2505	455	2185	3521	42629
2	Small 1.00-1.99	64	176	79	89	97	1046	77	139	434	257	93	91	267	619	3528
3	Semi-medium 2.00-3.99	28	33	21	37	16	348	32	105	227	141	10	140	113	75	1326
4	Medium 4.00-9.99	0	0	0	0	0	28	52	24	51	0	0	0	107	82	344
5	Large 10 & above	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	All categories	3303	3348	2433	2620	2050	5541	3364	4359	6062	4484	2608	686	2672	4297	47827

**IV 3 (b) District wise distribution of area of operational holdings by size class (Area in Hectares)**

Sl No	Category/ Size class (Ha)	Scheduled Tribe														
		Thiruvananthapuram	Kollam	Pathanamthitta	Alappuzha	Kottayam	Idukki	Ernakulam	Thrissur	Palakkad	Malapuram	Kozhikode	Wayanad	Kannur	Kasaragod	State
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Below 1.00	1283	22	86	33	1066	2857	164	84	1438	252	722	3804	761	1397	13969
2	Small 1.00-1.99	408	0	13	0	913	2551	0	11	2627	48	154	1469	949	1034	10177
3	Semi-medium 2.00-3.99	227	0	0	0	383	2493	0	0	2535	41	59	922	262	194	7116
4	Medium 4.00-9.99	0	0	0	0	93	0	0	0	586	0	22	206	26	57	990
5	Large 10 & above	0	0	0	0	0	0	0	0	0	0	0	150	0	0	150
6	All categories	1918	22	99	33	2455	7901	164	95	7186	341	957	6551	1998	2682	32402

IV 3 (c) District wise average size of holdings

Sl No	District	Below 1.00					1.00 - 1.99					2.00 - 3.99					4.00 - 9.99					10.0 & above					All sizes					
		85-	90-	95-	85-	90-	95-	85-	90-	95-	85-	90-	95-	85-	90-	95-	85-	90-	95-	85-	90-	95-	85-	90-	95-	85-	90-	95-	85-	90-	95-	
1	2	3	4	5	6	-	8	9	10	11	12	13	14	15	16	17	18	19	20													
1	Thiruvananthapuram	0.16	0.15	0.10	1.30	1.30	1.27	2.55	2.46	2.46	5.55	5.27	5.33	42.26	53.55	18.16	0.22	0.21	0.12													
2	Kollam	0.19	0.18	0.13	1.31	1.32	1.28	2.55	2.56	2.48	6.01	5.31	5.24	77.50	81.85	18.08	0.26	0.23	0.17													
3	Pathanamthitta	0.24	0.24	0.18	1.36	1.33	1.31	2.55	2.56	2.52	5.52	5.42	5.52	16.35	46.46	192.04	0.36	0.39	0.31													
4	Alappuzha	0.17	0.16	0.13	1.35	1.33	1.34	2.69	2.57	2.62	5.31	5.41	5.40	14.88	18.22	14.23	0.26	0.23	0.19													
5	Kottayam	0.22	0.22	0.17	1.38	1.41	1.34	2.62	2.62	2.56	5.41	5.62	5.26	23.59	20.48	16.38	0.52	0.47	0.36													
6	Idukki	0.32	0.33	0.22	1.31	1.29	1.31	2.49	2.47	2.42	5.45	5.49	5.40	36.46	116.90	27.79	0.94	1.00	0.48													
7	Ernakulam	0.18	0.16	0.12	1.35	1.37	1.32	2.59	2.58	2.54	5.12	5.29	5.06	24.70	47.19	61.87	0.30	0.29	0.22													
8	Thrissur	0.19	0.18	0.15	1.34	1.35	1.32	2.60	2.56	2.82	5.35	5.02	5.33	66.35	25.05	33.06	0.32	0.27	0.23													
9	Palakkad	0.20	0.20	0.16	1.39	1.41	1.37	2.66	2.66	2.61	5.19	5.28	5.24	47.31	42.37	30.63	0.54	0.48	0.40													
10	Malappuram	0.20	0.19	0.16	1.36	1.36	1.33	2.62	2.63	2.53	5.32	5.27	5.32	16.88	22.38	32.88	0.35	0.33	0.26													
11	Kozhikode	0.18	0.18	0.15	1.34	1.35	1.32	2.59	2.60	2.49	5.26	5.26	5.25	49.55	49.34	29.38	0.31	0.29	0.21													
12	Wayanad	0.29	0.33	0.25	1.40	1.49	1.34	2.64	2.83	2.54	5.58	5.34	5.45	55.45	55.92	44.55	1.02	0.86	0.61													
13	Kannur	0.26	0.24	0.21	1.37	1.46	1.35	2.63	2.60	2.54	5.13	5.14	5.09	22.33	22.53	42.48	0.52	0.46	0.38													
14	Kasaragod	0.30	0.27	0.25	1.34	1.34	1.35	2.54	2.59	2.48	5.17	5.26	5.11	142.56	108.32	54.90	0.68	0.61	0.49													
	State	0.20	0.20	0.15	1.35	1.37	1.33	2.61	2.61	2.55	5.31	5.32	5.26	42.40	55.91	35.29	0.40	0.37	0.27													

#### IV 4. Size class wise distribution of number, area and percentage of operational holdings according to major social groups

Sl. No	Size class (Ha)	Number of operational holdings			Area operated (Hectares)				
		All	Sch. Caste	Sch. Tribe	Others	All	Sch. Caste	Sch. Tribe	Others
1	Below 1.0	591785	575698	62071	528081	912449	42629	13969	855851
2	1.00 - 1.99	26229	2846	7477	251968	349341	3528	10177	335836
3	2.00 - 3.99	9553	551	3015	91966	243961	1326	7116	235519
4	4.00 - 9.99	19738	65	205	19468	103812	344	990	102478
5	10.00 & above	2903	0	5	2898	102460	0	150	102310
6	All sizes	6298314	579160	72773	5646381	1712223	47827	32402	1631994

Figures in brackets are the percentage to the all sizes

#### IV 5. District wise number and area of operational holdings according to major social groups

Sl. No	Districts	Number of operational holdings			Area operated (in hectares)			Total	Sch. Caste	Sch. Tribe	Others	Total
		Sch. Caste	Sch. Tribe	Others	Sch. Caste	Sch. Tribe	Others					
1	Thiruvananthapuram	7439	3807	689704	3303	1918	88394	768150	3303	1918	88394	93615
2	Kollam	5745	802	492207	3348	22	87574	550554	3348	22	87574	90944
3	Pathanamthitta	3233	449	258575	2433	99	87812	291757	2433	99	87812	90344
4	Alappuzha	36155	1022	406602	2620	33	80728	443779	2620	33	80728	83381
5	Kottayam	24142	4566	361045	2050	2455	134575	389753	2050	2455	134575	139080
6	Idukki	3822	14410	231301	5541	7901	121855	283933	5541	7901	121855	135297
7	Ernakulam	53724	900	553396	3364	164	129499	608020	3364	164	129499	133027
8	Thrissur	67571	579	538719	4359	95	135625	606869	4359	95	135625	140079
9	Palakkad	75012	8738	403754	6062	7186	180240	488104	6062	7186	180240	193488
10	Malappuram	51019	1552	515342	4484	341	143688	567913	4484	341	143688	148513
11	Kozhikode	29183	3773	488625	2608	957	106906	521581	2608	957	106906	110471
12	Wayanad	3208	22437	129715	686	6551	87991	155360	686	6551	87991	95228
13	Kannur	16126	4606	400603	2672	1998	154749	421335	2672	1998	154749	159419
14	Kasaragod	19281	5152	176793	4297	2682	92358	201206	4297	2682	92358	99337
	State	579160	72773	5646381	47827	32402	1631994	6298314	47827	32402	1631994	1712223

**IV 6. Number and area of operational holdings according to tenure and tenancy status**  
(Area in Hectares)

*All social groups*

Sl No	Category wise size class (Ha)	Total holdings		Wholly owned and self operated holdings		Wholly leased in holdings		Wholly other wise operated holdings		Partly owned, partly leased in and partly otherwise operated holdings				Total area (12+13+14)
		No.	Area	No.	Area	No.	Area	No.	Area	No.	Owne d area	Leased in area	Others wise operated area	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Below 1.00	591785	912449	5907102	909675	622	200	6072	861	4054	769	649	295	1713
2	Small 100-1.99	262291	349541	260469	347037	23	25	296	353	1503	1072	556	498	2126
3	Semi-medium 2.00-3.99	95532	243961	94597	241477	38	82	19	39	878	1140	565	658	2363
4	Medium 4.00-9.99	19738	103812	19476	102367	40	219	21	111	201	362	550	203	1115
5	Large 10 & above	2903	102460	2810	100952	0	0	0	0	93	571	702	235	1508
6	All categories	629831	171222	6284454	1701508	723	526	6408	1364	6729	3914	3022	1889	8825

*The figures in brackets are the percentage to the total area*

**IV 6 (a) Number and area of operational holdings according to tenure and tenancy status**  
(Area in Hectares)

*Scheduled Caste*

Sl No	Category wise size class (Ha)	Total holdings		Wholly owned and self operated holdings		Wholly leased in holdings		Wholly other wise operated holdings		Partly owned, partly leased in and partly otherwise operated holdings				Total area (12+13+14)
		No.	Area	No.	Area	No.	Area	No.	Area	No.	Owne d area	Leas ed in area	Other s wise oper ated area	
1	2	3	-	5	6	7	8	9	10	11	12	13	14	15
1	Below 1.00	575698	42629	572415	42356	0	0	2779	137	504	42	82	12	136
2	Small 1.00-1.99	2846	3528	2774	3445	5	7	48	54	19	3	9	10	22
3	Semi-medium 2.00-3.99	551	1326	551	1326	0	0	0	0	0	0	0	0	0
4	Medium 4.00-9.99	65	344	65	344	0	0	0	0	0	0	0	0	0
5	Large 10 & above	0	0	0	0	0	0	0	0	0	0	0	0	0
6	*All categories	579160	47827	575805	47471	5	7	2827	191	523	45	91	22	158

*The figures in brackets are the percentage to the total area*

*\* excluding holdings less than 0.02 ha; tare*



**IV 6 (b). Number and area of operational holdings according to tenure and tenancy status**  
(Area in Hectares)

Scheduled Tribe

Sl No	Category wise size class (Ha)	Total holdings		Wholly owned and self operated holdings		Wholly leased in holdings		Wholly other wise operated holdings		Partly owned, partly leased in and partly otherwise operated holdings				Total area (12+13+14)
		No.	Area	No.	Area	No.	Area	No.	Area	No.	Owned area	Leased in area	Others wise operated area	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Below 1.00	62071	13969	61449	13779	0	0	300	50	322	81	1	58	140
2	Small 1.00-1.99	7477	10177	7249	9871	0	0	0	0	228	127	0	179	306
3	Semi-medium 2.00-3.99	3015	7116	2856	6699	0	0	0	0	159	164	3	250	417
4	Medium 4.00-9.99	205	990	187	885	0	0	0	0	18	34	0	71	105
5	Large 10 & above	5	150	5	150	0	0	0	0	0	0	0	0	0
6	*All categories	72773	32402	71746	31384	0	0	300	50	727	406	4	558	968

The figures in brackets are the percentage to the total area

\* excluding holdings less than 0.02 hectare

**IV 7. Size class wise distribution of number of holdings and area operated according to tenancy status**

Sl. No	Category of holdings and size groups (Ha)	Number of holdings				Area operated (in hectares)				
		Wholly owned and self operated	Wholly leased in	Wholly other wise operated	Partly owned, partly leased in and partly other wise operated	Wholly owned and self operated	Wholly leased in	Wholly other wise operated	Partly owned, partly leased in and partly other wise operated	
1	2		4	5	6	7	8	9	10	
1	Below 1.00	5907102	622	6072	4054	909675	200	861	1713	
2	Small 1.00-1.99	260469	23	296	1503	347037	25	353	2126	
3	Semi-medium 2.00-3.99	64597	38	19	878	241477	82	39	2363	
4	Medium 4.00-9.99	19476	40	21	201	102367	219	111	1115	
5	Large 10 & above	2810	0	0	93	100952	0	0	1508	
6	* All categories	6284454	723	6408	6729	1701508	526	1364	8825	

## IV 8. Distribution of leased in area by terms of leasing

Sl. No	Category of holdings and size groups (Ha)	Area leased in for (in hectares)						
		Fixed money	Fixed produce	Share of produce	Usafactory mortgage	Other terms	Total	
1	2	3	4	5	6	7	8	
1	Below 1.00	326	27	216	33	247	849	
2	Small 1.00-1.99	322	83	132	7	37	581	
3	Semi-medium 2.00-3.99	411	0	82	123	31	647	
4	Medium 4.00-9.99	509	7	44	0	209	769	
5	Large 10 & above	615	0	87	0	0	702	
6	* All categories	2183	117	561	163	524	3548	

Figures in brackets are the percentage to the total  
\* excluding holdings less than 0.02 hectare

IV 9. Land utilization pattern 1985-86, 1995-96 and 1990-91  
(Area in Hectares)

Sl. No.		1985-86		1990-91		1995-96	
		Area	Percentage	Area	Percentage	Area	Percentage
1	2	3	4	5	6	7	8
1	Net area sown	1542783	87.33	1556284	87.08	1446571	84.48
2	Area under current fallow	26064	1.48	19928	1.11	22308	1.30
3	Other uncultivated land excluding fallow land	21976	1.24	19165	1.07	24195	1.41
4	Fallow land other than current fallow	23228	1.32	20625	1.15	15729	0.93
5	Cultivable waste land	31450	1.78	27500	1.54	22149	1.29
6	Land not available for cultivation	121094	6.85	143788	8.05	181274	10.59
7	Total area of holdings	1766595	100.00	1787290	100.00	1712223	100.00

## IV 9 (a) District wise distribution of Land Utilisation

*All social groups*

Sl. No.	District	Net area sown	Current fallow	Other uncultivated land	Fallow land other than current fallow	Cultivable waste	Land not available for cultivation	Total
1	2	3	4	5	6	7	8	9
1	Thiruvananthapuram	77951	584	672	76	467	13865	93615
2	Kollam	76887	358	804	526	424	11945	90944
3	Pathanamthitta	77497	888	302	874	171	10612	90344
4	Alappuzha	68989	1243	1241	799	943	10166	83381
5	Kottayam	123225	1031	322	387	481	13634	139080
6	Idukki	124400	813	908	384	703	8089	135297
7	Eranakulam	110030	1294	1144	1030	1665	17864	133027
8	Thrissur	114926	967	2415	1765	1365	18641	140079
9	Palakkad	156125	4709	6075	4446	5550	16583	193488
10	Malappuram	118484	3969	3536	1903	3009	17612	148513
11	Kozhikode	96392	615	1121	361	692	11290	110471
12	Wayanad	85012	1801	636	513	890	6376	95228
13	Kannur	136601	2318	1473	1665	2889	14473	159419
14	Kasaragod	80052	1718	3546	1000	2897	10124	90337
	<b>State</b>	<b>1446571</b>	<b>22308</b>	<b>24195</b>	<b>15729</b>	<b>22146</b>	<b>181274</b>	<b>1712223</b>

**IV 9 (b) District wise percentage distribution of land utilisation**  
(Area in Hectares)

District	Net area sown			Current fallow			Other uncultivated land			Fallow land other than current fallow			Cultivable waste			Land not available for cultivation		
	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Thiruvananthapuram	5.64	5.94	5.39	1.53	2.74	2.62	2.09	1.20	2.78	4.59	2.49	0.48	2.06	1.23	2.11	7.16	7.89	7.65
Kollam	5.93	5.57	5.32	1.27	1.38	1.61	3.47	1.37	3.32	4.81	1.68	3.34	0.90	0.93	1.92	6.40	6.21	6.59
Pathanamthitta	4.78	5.23	5.36	4.06	2.61	3.98	2.02	1.56	1.25	4.28	3.07	5.56	1.20	0.47	0.77	4.14	4.37	5.85
Alappuzha	4.66	4.48	4.77	3.16	4.79	5.57	3.79	2.99	5.13	1.94	1.46	5.08	3.90	5.10	4.26	6.76	6.60	5.61
Kottayam	8.75	8.41	8.52	7.79	5.98	4.62	4.99	7.14	1.33	9.01	2.91	2.46	1.25	2.03	2.17	6.90	7.96	7.52
Idukki	9.31	11.73	8.60	5.52	9.09	3.64	3.91	3.60	3.75	22.32	30.11	2.44	7.96	8.15	3.17	7.83	6.48	4.46
Ernakulam	6.98	6.90	7.61	3.05	5.23	5.80	4.27	4.01	4.73	5.25	4.26	6.55	4.06	4.30	7.52	8.45	9.44	9.86
Thrissur	7.55	6.92	7.94	7.40	5.13	4.34	12.34	5.84	9.98	3.80	2.39	11.22	4.56	5.02	6.16	8.85	7.81	10.28
Palakkad	10.29	10.08	10.79	21.32	21.76	21.11	20.00	22.20	25.11	12.65	6.77	28.27	19.75	17.78	25.06	10.94	9.88	9.15
Malappuram	7.48	7.49	8.19	18.33	19.56	17.79	13.84	17.51	14.61	19.85	11.07	12.10	15.91	15.10	13.59	8.41	8.85	9.72
Kozhikode	7.18	6.82	6.66	1.63	5.94	2.76	3.19	5.32	4.63	3.92	7.47	2.29	2.16	9.17	3.12	7.07	7.18	6.23
Wayanad	5.92	5.60	5.88	10.13	5.01	8.07	5.67	12.65	2.63	1.59	10.57	3.26	7.53	5.42	4.02	3.17	4.53	3.52
Kannur	9.69	9.20	9.44	9.50	4.79	10.39	8.61	6.45	6.09	7.51	6.55	10.59	10.12	12.48	13.05	9.45	8.14	7.98
Kasaragod	5.64	5.63	5.55	5.31	5.99	7.70	11.81	8.16	14.66	8.48	9.20	6.36	18.64	12.82	13.08	4.47	4.16	5.58
State	100.0	100.0	100.0	100.0	100.0	100	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Actual (in lakh Ha)	15.43	15.56	14.47	0.26	0.20	0.22	0.22	0.19	0.24	0.23	0.21	0.15	0.31	0.28	0.22	1.21	1.44	1.81

**IV 10. Percentage of area under main land use to the total operated area by the districts 1985-86, 1990-91 & 1995-96**

Sl. No	Districts	Net cultivated area			Uncultivated land			Land not available for cultivation			Total		
		85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Thiruvananthapuram	88.97	88.21	83.89	2.21	1.03	1.30	8.82	10.76	14.81	100.00	100.00	100.00
2	Kollam	90.25	89.88	84.94	2.13	0.89	1.93	7.62	9.23	13.13	100.00	100.00	100.00
3	Pathanamthitta	91.64	91.77	86.76	2.22	1.19	1.49	6.14	7.04	11.75	100.00	100.00	100.00
4	Alappuzha	87.64	85.75	84.23	2.90	2.76	3.58	9.46	11.49	12.19	100.00	100.00	100.00
5	Kottayam	91.99	90.43	89.34	2.41	1.73	0.86	5.60	7.84	9.80	100.00	100.00	100.00
6	Idukki	88.95	90.90	92.55	5.24	4.49	1.47	5.81	4.61	5.98	100.00	100.00	100.00
7	Ernakulam	88.81	86.86	83.68	2.81	2.27	2.89	8.38	10.87	13.43	100.00	100.00	100.00
8	Thrissur	88.26	88.43	82.73	3.75	2.44	3.96	7.99	9.13	13.31	100.00	100.00	100.00
9	Palakkad	85.99	86.69	83.12	7.08	5.67	8.31	6.93	7.64	8.57	100.00	100.00	100.00
10	Malappuram	85.11	84.25	82.45	7.35	6.85	5.69	7.24	8.90	11.86	100.00	100.00	100.00
11	Kozhikode	91.10	87.45	87.81	1.88	4.14	1.97	7.02	8.41	10.22	100.00	100.00	100.00
12	Wayanad	92.12	87.48	91.16	3.91	6.05	2.14	3.77	6.47	6.70	100.00	100.00	100.00
13	Kannur	89.27	89.04	87.14	4.01	3.72	3.78	6.72	7.24	9.08	100.00	100.00	100.00
14	Kasaragod	84.79	86.64	82.32	10.01	6.82	7.49	5.20	6.54	10.19	100.00	100.00	100.00
	<b>State</b>	<b>88.81</b>	<b>88.19</b>	<b>85.79</b>	<b>4.34</b>	<b>3.76</b>	<b>3.63</b>	<b>6.85</b>	<b>8.05</b>	<b>10.59</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

#### IV 10 (a). Percentage of area under main land use to the total operated area by the State 1985-86, 1990-91 & 1995-96

Sl. No	Size class (Hectares)	Percentage of area under											
		Net cultivated area			Uncultivated land			Land not available for cultivation					
		85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Marginal (0.02-0.99)	86.65	86.18	82.69	3.79	2.82	3.12	9.56	11.00	14.19	100.00	100.00	100.00
2	Small (1.00-1.99)	91.39	91.57	89.89	4.17	3.38	3.52	4.44	5.05	6.59	100.00	100.00	100.00
3	Semi medium (2.00 - 3.99)	91.33	91.38	89.47	4.52	3.95	4.06	4.15	4.67	6.47	100.00	100.00	100.00
4	Medium (4.00 - 9.99)	89.59	89.26	89.37	5.80	5.04	4.51	4.61	5.70	6.12	100.00	100.00	100.00
5	Large (10.00 & above)	88.66	85.31	87.02	5.91	8.02	6.53	5.43	6.63	6.45	100.00	100.00	100.00
6	All sizes	88.81	88.19	85.79	4.34	3.76	3.62	6.85	8.05	10.59	100.00	100.00	100.00

#### IV 11. Percentage of net cultivated area, total uncultivated area and land available for cultivation in 1985-86, 1990-91 & 1995-96

Sl.No.	Size class (Hectares)	Net cultivated area			Uncultivated land			Land not available for cultivation				
		85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96		
		1	2	3	4	5	6	7	8	9	10	11
1	Marginal (0.02-0.99)	44.73	46.83	51.36	40.05	35.88	45.86	44.51	46.38	71.44	71.44	71.44
2	Small (1.00-1.99)	22.27	22.28	21.39	20.78	19.25	19.85	19.25	22.15	22.70	22.70	22.70
3	Semi medium (2.00 - 3.99)	15.80	14.78	14.86	16.01	14.99	15.97	15.81	14.79	8.71	8.71	8.71
4	Medium (4.00 - 9.99)	7.47	6.47	6.32	9.89	8.55	7.55	7.58	6.56	3.50	3.50	3.50
5	Large (10.00 & above)	9.73	9.64	6.07	13.27	21.33	10.77	9.90	10.12	3.65	3.65	3.65
6	All sizes	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

IV 11 (a). Percentage of area under land available for cultivation, net cultivated area and land uncultivated by districts -  
1985-86, 1990-91 & 1995-96

Sl.No	Districts	Land available for cultivation			Net cultivated area			Land uncultivated		
		1985-86	1990-91	1995-96	1985-86	1990-91	1995-96	1985-86	1990-91	1995-96
1	2	3	4	5	6	7	8	9	10	11
1	Thiruvananthapuram	5.44	5.73	5.21	5.57	5.90	5.35	2.84	1.61	1.96
2	Kollam	5.71	5.35	5.16	5.85	5.52	5.26	2.82	1.29	2.83
3	Pathanamthitta	4.66	5.05	5.21	4.77	5.19	5.33	2.37	1.58	2.17
4	Alappuzha	4.76	4.44	4.78	4.83	4.49	4.78	3.28	3.38	4.81
5	Kottayam	8.55	8.18	8.19	8.74	8.37	8.46	4.67	3.75	1.92
6	Idukki	9.34	11.77	8.31	9.25	11.70	8.52	11.15	13.59	3.21
7	Ernakulam	6.80	6.77	7.52	6.91	6.88	7.58	4.48	4.20	6.18
8	Thrissur	7.50	6.80	7.93	7.55	6.90	7.89	6.56	4.45	8.93
9	Palakkad	10.81	10.45	11.56	10.48	10.23	10.95	17.67	15.66	25.89
10	Malappuram	7.93	7.93	8.55	7.66	7.65	8.34	13.48	14.55	13.61
11	Kozhikode	6.89	6.84	6.48	7.08	6.81	6.60	2.99	7.55	3.50
12	Wayanad	5.96	5.73	5.80	5.99	5.59	5.91	5.19	9.06	3.29
13	Kannur	9.65	9.13	9.47	9.69	9.14	9.46	8.90	8.95	9.71
14	Kasaragod	6.00	5.83	5.83	5.63	5.63	5.57	13.60	10.38	11.99
	State	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00



## IV 12. Crop-wise percentage distribution of gross cropped area during 1985-86, 1990-91 and 1995-96

Sl.No.	Name of crop	1985-86	1990-91	1995-96
1	2	3	4	5
1	Paddy	18.24	16.08	12.06
2	Coconut	23.40	27.10	31.36
3	Tapioca	5.15	5.08	2.34
4	Rubber	13.74	16.22	17.69
5	Cashew	4.08	3.47	3.55
6	Tea	1.52	1.55	0.65
7	Pepper	7.43	8.10	7.61
8	Coffee	2.56	2.69	3.84
9	Arecanut	1.68	1.98	3.57
10	Mango	2.61	1.92	1.65
11	Banana	6.05	5.65	5.59
12	Others	12.94	10.16	10.09
	<b>All crops</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

## IV 13. Percentage distribution of area under principal crops in different size classes 1995-96

Sl.No.	Size class (Hectares)	Paddy	Coconut	Tapioca	Rubber	Cashew	Tea	Pepper	Coffee	Arecanut	Mango	Banana
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Marginal (0.02-0.99)	41.00	69.97	70.75	38.82	46.18	9.02	53.45	36.73	53.29	78.46	69.64
2	Small (1.00-1.99)	27.79	15.35	16.47	26.33	21.71	9.52	23.16	21.75	23.22	10.80	16.19
3	Semi medium (2.00 - 3.99)	20.68	9.37	9.51	19.00	15.83	8.18	13.40	14.75	15.28	6.24	9.30
4	Medium (4.00 - 9.99)	8.48	3.48	2.79	8.41	7.18	5.49	5.10	9.06	6.22	2.58	3.18
5	Large (10.00 & above)	2.05	1.83	0.48	7.44	9.10	67.79	4.89	17.71	1.99	1.92	1.69
6	<b>All sizes</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

## IV 14. District wise intensity of cropping 1995-96

Sl.No	Districts	Area in hect.			Intensity of cropping
		1	2	3	
1	Thiruvananthapuram		77951	109822	1.41
2	Kollam		76887	140336	1.83
3	Pathanamthitta		77497	105442	1.36
4	Alappuzha		68989	95035	1.38
5	Kottayam		123225	162158	1.32
6	Idukki		124400	228444	1.84
7	Eranakulam		110030	152747	1.39
8	Thrissur		114926	157654	1.37
9	Palakkad		156125	219383	1.41
10	Malappuram		118484	167332	1.41
11	Kozhikode		96392	149392	1.55
12	Wayanad		85012	133990	1.58
13	Kannur		136601	189738	1.39
14	Kasaragod		80052	102966	1.29
	<b>State</b>		<b>1446571</b>	<b>2114439</b>	<b>1.46</b>

## IV 15. Percentage of Gross cropped area under selected crops

Sl. No	Size of holding	Percentage of area under											All crops	
		Paddy	Pepper	Banana	Mango	Cashew	Tapioca	Coconut	Areca nut	Tea	Coffee	Rubber		Others
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Below 1.00	8.88	7.31	7.00	2.32	2.95	2.98	39.45	3.42	0.11	1.91	12.35	11.32	100.00
2	Small (1.00-1.99)	16.55	8.71	4.47	0.88	3.81	1.91	23.78	4.09	0.30	3.11	23.01	9.37	100.00
3	Semimedium (2.0-3.99)	18.30	7.48	3.82	0.75	4.13	1.62	21.55	4.00	0.39	5.13	24.66	10.16	100.00
4	Medium (4.00 - 9.99)	18.00	6.84	3.13	0.75	4.49	1.15	19.25	3.91	0.63	4.62	26.21	11.02	100.00
5	Large (10.00 & above)	5.12	7.71	2.96	0.65	6.70	0.24	11.88	2.47	9.11	8.62	27.27	17.27	100.00
6	<b>All sizes</b>	<b>12.06</b>	<b>7.61</b>	<b>5.59</b>	<b>1.65</b>	<b>3.55</b>	<b>2.34</b>	<b>31.36</b>	<b>3.57</b>	<b>0.65</b>	<b>2.89</b>	<b>17.69</b>	<b>11.04</b>	<b>100.00</b>

**IV 16. District wise percentage distribution of area of holdings according to irrigation status 1985-86, 1990-91 and 1995-96**

Sl No	District	Wholly irrigated holdings			Partly irrigated holdings						Net irrigated area			Wholly unirrigated holdings			Net area sown		
		holdings			Total area			Irrigated area			85-86			90-91			95-96		
		85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Thiruvananthapuram	1.00	0.68	0.75	18.36	17.97	9.80	5.11	5.28	3.41	6.11	5.96	4.16	80.64	81.35	89.45	100.0	100.0	100.0
2	Kollam	0.04	0.08	0.63	14.29	27.79	21.84	2.95	4.54	4.80	2.99	4.62	5.42	85.67	72.13	77.53	100.0	100.0	100.0
3	Pathanamthitta	0.02	0.07	0.10	10.39	22.06	18.31	4.10	7.56	5.42	4.12	7.63	5.52	89.59	77.87	81.59	100.0	100.0	100.0
4	Alappuzha	0.85	0.50	3.75	56.73	53.12	67.42	23.94	26.14	47.03	24.79	26.64	50.78	42.42	46.38	28.83	100.0	100.0	100.0
5	Kottayam	0.18	0.13	0.70	15.77	21.40	20.84	3.41	5.07	8.09	3.59	5.20	8.79	84.05	78.47	78.46	100.0	100.0	100.0
6	Idukki	1.46	0.77	2.73	10.86	20.08	24.04	5.29	7.12	10.16	6.75	7.89	12.89	87.68	79.15	73.23	100.0	100.0	100.0
7	Eranakulam	5.71	5.73	9.92	54.56	61.24	41.75	23.45	28.00	17.08	29.16	33.73	27.00	39.73	33.03	48.33	100.0	100.0	100.0
8	Thrissur	5.98	15.30	16.74	68.91	59.58	59.45	42.48	40.33	41.19	48.46	55.63	57.93	25.11	25.12	23.81	100.0	100.0	100.0
9	Palakkad	2.55	1.47	7.99	57.11	59.14	63.56	34.75	39.24	37.58	37.30	40.71	45.57	40.34	39.39	28.45	100.0	100.0	100.0
10	Malappuram	1.39	0.78	4.15	38.55	40.80	45.92	16.45	18.44	22.54	17.84	19.22	26.69	60.06	58.42	49.93	100.0	100.0	100.0
11	Kozhikode	0.73	0.67	2.90	15.30	16.23	22.71	3.91	4.76	8.36	4.64	5.43	11.26	83.97	83.10	74.39	100.0	100.0	100.0
12	Wayanad	0.04	0.04	2.27	19.57	35.38	21.45	4.88	7.49	6.76	4.92	7.53	9.03	80.39	64.58	76.28	100.0	100.0	100.0
13	Kannur	0.18	0.24	2.62	32.82	26.30	33.82	7.24	12.75	11.44	7.42	12.99	14.06	67.00	73.46	63.56	100.0	100.0	100.0
14	Kasaragod	2.94	4.36	8.86	53.84	51.88	63.45	19.45	25.30	29.15	22.39	29.66	38.01	43.22	43.76	27.69	100.0	100.0	100.0
	State	1.71	2.16	4.90	33.77	36.51	37.73	14.63	16.80	18.66	16.34	18.96	23.56	64.52	61.33	57.37	100.0	100.0	100.0

**IV 16 (a) Percentage of area irrigated from different sources by major size groups 1985-86, 1990-91 and 1995-96**

Sl No	Category of holdings Size group	Canal			Tank			Well			Tube well			Other sources			All sources		
		85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96
1	Marginal (0.02-0.99)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Marginal (0.02-0.99)	36.40	41.15	38.97	52.56	54.81	36.59	52.15	55.02	55.10	30.48	53.26	54.54	41.16	45.73	41.02	44.64	48.98	46.93
2	Small (1.00-1.99)	27.35	26.35	26.35	21.12	20.03	22.41	22.53	22.69	21.54	15.09	16.65	19.68	25.55	25.96	25.20	24.43	23.93	33.32
3	Semi medium (2.00 - 3.99)	21.97	21.90	22.87	15.09	14.12	20.01	15.64	14.47	13.62	14.92	7.09	15.56	18.49	17.89	18.41	18.15	16.95	17.19
4	Medium (4.00 - 9.99)	11.34	10.39	9.22	6.28	7.83	9.94	6.22	5.51	6.35	9.54	5.62	7.98	8.25	7.32	8.83	8.29	7.71	7.91
5	Large (10.00 & above)	2.94	0.81	2.59	4.95	3.21	11.05	3.46	2.31	3.39	29.97	17.98	2.25	6.55	3.10	6.54	4.49	2.43	4.65
	All sizes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**IV 16 (b) Percentage distribution of size class wise area irrigated by different sources -1985-86, 1990-91 and 1995-96**

Sl No	Category of holdings Size group	Canal			Tank			Well			Tube well			Other sources			All sources		
		85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96
1	Marginal (0.02- 0.99)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Marginal (0.02- 0.99)	24.80	24.46	15.34	16.75	18.74	6.86	36.18	34.48	49.65	0.64	1.62	6.36	21.63	20.70	21.89	100.0	100.0	100.0
2	Small (1.00-1.99)	34.04	31.82	20.88	12.30	14.02	8.45	28.55	29.11	39.06	0.58	1.00	4.55	24.53	24.05	27.06	100.0	100.0	100.0
3	Semi medium (2.00 - 3.99)	36.81	35.81	24.58	11.83	13.96	10.23	26.69	26.21	33.49	0.77	0.62	4.87	23.90	23.40	26.82	100.0	100.0	100.0
4	Medium (4.00 - 9.99)	41.56	38.93	21.55	10.77	17.01	11.06	23.24	21.92	33.97	1.07	1.09	5.45	23.35	21.05	27.98	100.0	100.0	100.0
5	Large (10.00 & above)	19.94	9.56	10.33	15.72	22.10	20.92	23.90	29.11	30.88	6.23	11.00	2.61	34.21	28.23	35.26	100.0	100.0	100.0
	All sizes	30.41	28.89	18.48	14.23	16.75	8.79	30.97	30.70	42.29	0.93	1.49	5.39	23.46	22.17	25.05	100.0	100.0	100.0

## IV 16 (c) Distribution of district wise holdings receiving irrigation by different sources - 1995-96

Sl No	District	Source of irrigation											
		Canal		Tank		Well		Tube wells		Other sources		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	2	3	4	5	6	-	8	9	10	11	12	13	14
1	Thiruvananthapuram	1594	1.10	875	0.80	26594	2.83	689	0.56	2968	2.02	31818	2.02
2	Kollam	1828	1.26	1044	0.95	50005	5.33	2133	1.75	6654	3.86	60775	3.86
3	Pathanamthitta	3610	2.50	840	0.77	12557	1.34	1226	1.00	10385	1.73	27280	1.73
4	Alappuzha	11024	7.60	34381	31.37	88339	9.41	40424	33.08	44304	13.52	212876	13.52
5	Kottayam	2309	1.59	2513	2.29	10618	1.13	1041	0.85	15374	1.95	30750	1.95
6	Idukki	1599	1.10	2957	2.70	5708	0.61	1509	1.23	15343	1.68	26378	1.68
7	Eranakulam	22025	15.18	10725	9.78	137236	14.63	21217	17.36	44968	14.07	221435	14.07
8	Thrissur	27781	19.14	19462	17.76	198170	21.12	26461	21.65	43374	18.48	290862	18.48
9	Palakkad	56960	39.25	9029	8.24	116715	12.44	5984	4.90	97724	15.58	245273	15.58
10	Malappuram	4128	2.85	9756	8.90	79896	8.52	7467	6.11	37564	8.22	129426	8.22
11	Kozhikode	4138	2.85	1681	1.53	55287	5.89	591	0.48	7533	4.15	65376	4.15
12	Wayanad	3010	2.07	1182	1.08	1004	0.11	69	0.06	7795	0.82	12840	0.82
13	Kannur	1602	1.10	2787	2.54	78524	8.37	3644	2.98	27594	6.94	109240	6.94
14	Kasaragod	3504	2.41	12380	11.29	77575	8.27	9761	7.99	16517	6.98	109916	6.98
	<b>State</b>	<b>145132</b>	<b>100.00</b>	<b>109612</b>	<b>100.00</b>	<b>938228</b>	<b>100.00</b>	<b>122216</b>	<b>100.00</b>	<b>378117</b>	<b>100.00</b>	<b>1574245</b>	<b>100.00</b>

IV 16 (d) Distribution of district wise area irrigated by different sources in 1995-96

Sl No	District	Source of irrigation											
		Canal		Tank		Well		Tube wells		Other sources		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Thiruvananthapuram	245	0.39	96	0.32	2648	1.84	91	0.50	161	0.19	3241	0.95
2	Kollam	134	0.21	92	0.31	3159	2.18	140	0.76	666	0.78	4171	1.22
3	Pathanamthitta	999	1.59	163	0.54	966	0.67	142	0.77	2008	2.35	4278	1.26
4	Alappuzha	3164	5.02	2758	9.20	7640	5.30	3734	20.34	17739	20.78	35035	10.28
5	Kottayam	1005	1.60	761	2.54	2654	1.84	359	1.96	6050	7.09	10829	3.18
6	Idukki	707	1.12	3641	12.15	3971	2.76	757	4.12	3953	8.14	16029	4.70
7	Ernakulam	6211	9.86	2137	7.13	14751	10.23	1779	9.69	4831	5.66	29709	8.72
8	Thrissur	9761	15.50	5807	19.37	37321	25.89	4358	23.74	9333	10.93	66580	19.54
9	Palakkad	35746	56.76	2586	8.63	19436	13.49	2040	11.11	11341	13.29	71149	20.88
10	Malappuram	1031	1.64	2561	8.54	15175	10.53	1758	9.58	11093	12.99	31618	9.28
11	Kozhikode	798	1.27	483	1.61	8350	5.79	188	1.02	1036	1.21	10855	3.19
12	Wayanad	1696	2.69	2174	7.25	678	0.47	31	0.17	3097	3.63	7676	2.25
13	Kannur	356	0.57	893	2.98	11343	7.87	508	2.77	6109	7.16	19209	5.64
14	Kasaragod	1127	1.79	5821	19.42	16058	11.14	2470	13.46	4949	5.80	30425	8.93
	<b>State</b>	<b>62980</b>	<b>100.0</b>	<b>29973</b>	<b>100.0</b>	<b>144130</b>	<b>100.0</b>	<b>18355</b>	<b>100.0</b>	<b>85366</b>	<b>100.0</b>	<b>340804</b>	<b>100.0</b>

IV 16 (e) Percentage of number of holdings irrigated by different sources in each district 1995-96

Sl No	District	Source of irrigation						Total
		Canal	Tank	Well	Tube wells	Other sources	8	
1	2	3	4	5	6	7	8	
1	Thiruvananthapuram	4.87	2.67	81.23	2.10	9.13	100.0	
2	Kollam	2.96	1.69	81.09	3.46	10.80	100.0	
3	Pathanamthitta	12.68	2.93	43.85	4.28	36.26	100.0	
4	Alappuzha	5.05	15.74	40.43	18.50	20.28	100.0	
5	Kottayam	7.25	7.89	33.33	3.27	48.26	100.0	
6	Idukki	5.90	10.91	21.05	5.56	56.58	100.0	
7	Eranakulam	9.33	4.54	58.11	8.98	19.04	100.0	
8	Thrissur	8.81	6.17	62.86	8.39	13.77	100.0	
9	Palakkad	19.89	3.15	40.75	2.09	34.12	100.0	
10	Malappuram	2.97	7.03	57.56	5.38	27.06	100.0	
11	Kozhikode	5.98	2.43	79.86	0.85	10.88	100.0	
12	Wayanad	23.05	9.05	7.69	0.53	59.68	100.0	
13	Kannur	1.40	2.44	68.79	3.19	24.18	100.0	
14	Kasaragod	2.93	10.34	64.79	8.15	13.79	100.0	
	State	8.57	6.47	55.41	7.22	22.33	100.0	

IV 16 (f) Percentage of area irrigated by different sources in each district - 1985-86, 1990-91 and 1995-96

Sl No	District	Source of irrigation																	
		Canal			Tank			Well			Tube wells			Other sources			Total		
		85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96	85-86	90-91	95-96
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Thiruvananthapuram	17.55	27.26	7.56	8.39	10.71	2.96	25.20	36.29	81.70	0.56	0.43	2.81	48.30	25.31	4.97	100.0	100.0	100.0
2	Kollam	1.77	10.46	3.21	3.54	4.50	2.21	56.94	47.94	75.26	0.33	0.25	3.36	37.42	36.85	15.96	100.0	100.0	100.0
3	Pathanamthitta	16.67	29.54	23.35	5.35	1.97	3.81	4.59	9.57	22.58	0.06	0.11	3.32	73.33	58.81	46.94	100.0	100.0	100.0
4	Alappuzha	7.71	10.96	9.03	57.13	56.03	7.87	11.75	8.88	21.81	1.88	3.74	10.66	21.53	20.39	50.63	100.0	100.0	100.0
5	Kottayam	15.41	16.35	9.28	14.82	15.25	7.03	27.21	18.48	24.51	1.06	1.02	3.32	41.50	48.90	55.86	100.0	100.0	100.0
6	Idukki	6.21	3.72	4.41	19.46	29.94	22.72	28.62	26.94	24.77	7.34	3.71	4.72	38.37	35.69	43.38	100.0	100.0	100.0
7	Eranakulam	34.45	31.21	20.91	8.73	7.39	7.19	34.84	29.95	49.65	0.27	0.51	5.99	21.71	30.90	16.26	100.0	100.0	100.0
8	Thrissur	23.97	24.50	14.66	15.44	14.20	8.72	38.11	42.06	56.05	0.40	0.43	6.55	22.08	18.81	14.02	100.0	100.0	100.0
9	Palakkad	68.98	66.04	50.24	5.04	6.00	3.63	17.08	16.18	27.32	0.80	1.11	2.87	8.09	10.67	15.94	100.0	100.0	100.0
10	Malappuram	9.53	8.69	3.26	11.70	11.32	8.10	45.17	49.32	47.99	0.44	1.20	5.56	33.16	29.47	35.09	100.0	100.0	100.0
11	Kozhikode	35.81	27.80	7.35	6.53	8.64	4.45	43.67	48.66	76.92	0.94	0.07	1.73	13.05	14.83	9.55	100.0	100.0	100.0
12	Wayanad	8.43	9.09	22.09	2.37	2.57	28.32	3.70	5.21	8.83	0.23	0.14	0.40	85.27	82.99	40.36	100.0	100.0	100.0
13	Kannur	7.05	11.11	1.85	7.17	57.13	4.65	42.16	7.84	59.05	0.26	5.71	2.64	43.36	18.21	31.81	100.0	100.0	100.0
14	Kasaragod	19.24	7.11	3.70	19.88	15.64	19.13	50.12	64.85	52.78	1.48	2.53	8.12	18.28	10.07	16.27	100.0	100.0	100.0
	State	30.41	28.89	18.48	14.23	16.75	8.79	30.97	30.70	42.29	0.93	1.49	5.39	23.46	22.17	25.05	100.0	100.0	100.0



IV 16 (g) Number of wells and tube wells used for irrigation in different size classes

Sl No	Size class	Number of wells in use				Number of tube wells			
		With pumpset		Total (3+4)	Without pumpset	Electric	Diesel	Total (7+8)	
		Electric	Diesel						
1	2	3	4	5	6	7	8	9	
1	Below 1.00	440439	20001	460440	391102	106611	3169	109778	
2	Small (1.00-1.99)	46154	5036	51190	23825	7539	193	7732	
3	Semi medium (2.00 - 3.99)	20020	2145	22165	9180	3519	117	3636	
4	Medium (4.00 - 9.99)	5535	695	6230	2156	1109	13	1122	
5	Large (10.00 & above)	658	57	715	387	83	10	93	
6	All sizes	512806	27934	540740	426650	118861	3502	122361	

## IV 16 (h) Distribution of district wise number of wells and tube wells

Sl No	District	Number of wells in use				Number of tube wells		
		With pumpset		Total (3+4)	Without pumpset	Electric	Diesel	Total (7+8)
		Electric	Diesel					
1	2	3	4	5	6	7	8	9
1	Thiruvananthapuram	16195	656	16851	9787	689	0	689
2	Kollam	17649	673	18322	31985	2133	0	2133
3	Pathanamthitta	4085	299	4384	8355	1208	18	1226
4	Alappuzha	31274	504	31778	56705	39963	517	40479
5	Kottayam	4376	116	4492	6200	1041	0	1041
6	Idukki	3941	248	4189	1726	1509	0	1509
7	Ernakulam	83226	1156	84382	56047	20998	219	21217
8	Thrissur	137189	3096	140285	65287	25473	1024	26498
9	Palakkad	50874	1743	52617	67173	5924	59	5984
10	Malappuram	46396	3825	50221	34373	6433	1072	7504
11	Kozhikode	36030	1309	37339	18917	572	19	591
12	Wayanad	531	199	730	439	69	0	69
13	Kannur	41140	5747	46887	33744	3587	58	3644
14	Kasaragod	39900	8363	48263	35912	9262	516	9777
	<b>State</b>	<b>512806</b>	<b>27934</b>	<b>540740</b>	<b>426650</b>	<b>118861</b>	<b>3502</b>	<b>122361</b>

## IV 17 Intensity of irrigation

Sl.No.	Size class (Hectares)	Intensity of Irrigation		
		1995-96	1990-91	1985-86
1	2	3	4	5
1	Below 1.00	114.91	144.75	151.92
2	Small (1.00-1.99)	113.34	128.03	139.12
3	Semi medium (2.00 - 3.99)	112.50	120.88	138.68
4	Medium (4.00 - 9.99)	113.76	133.92	136.21
5	Large (10.00 & above)	113.38	130.79	115.44
6	All sizes	113.97	135.37	143.22

## IV 17 (a) District-wise percentage distribution of gross cropped area according to irrigation status 1995-96

Sl.No	Districts	Irrigated	Unirrigated	Total
1	Thiruvananthapuram	3.47	96.53	100.0
2	Kollam	3.44	96.56	100.0
3	Pathanamthitta	4.50	95.70	100.0
4	Alappuzha	43.01	56.99	100.0
5	Kottayam	7.06	92.94	100.0
6	Idukki	8.02	91.98	100.0
7	Eranakulam	24.47	75.53	100.0
8	Thrissur	47.48	52.52	100.0
9	Palakkad	34.82	65.18	100.0
10	Malappuram	22.44	77.56	100.0
11	Kozhikode	8.22	91.78	100.0
12	Wayanad	6.48	93.52	100.0
13	Kannur	11.42	88.58	100.0
14	Kasaragod	34.76	65.24	100.0
	State	18.37	81.63	100.0





