PUBLIC WORKS DEPARTMENT
MADRAS PRESIDENCY

# ADMINISTRATION REPORT

*(Without Administrative Accounts)*

## FOR THE YEAR 1946-47

### PART II—IRRIGATION

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## MADRAS PRESIDENCY

SCALE OF MILES

50 0 50 100 MILES

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IRRIGATED AREA
INDIAN STATE
RIVERS
RAILWAY LINE
MADRAS PROVINCE
▲ P.1 PRODUCTIVE WORK
▲ U.1 UNPRODUCTIVE WORK
Nos 1,2,3 ETC GIVEN REFER TO THE SERIAL NOS IN C.II. STATEMENT OF THE ADMINISTRATION REPORT

PREPARED BY V.P.N.

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PUBLIC WORKS DEPARTMENT, MADRAS PRESIDENCY

# ADMINISTRATION REPORT

## FOR THE YEAR 1946-47

## PART II—IRRIGATION

### Chapter I.

#### I. PERSONNEL.

Sri Rao Bahadur A. R. Venkata Acharya, B.E., I.S.E., Chief Engineer for Irrigation, from 10th October 1945, continued to be in charge of the post for the year under report.

Sri Diwan Bahadur N. Govindaraja Ayyangar, B.A., B.E., continued to be the Chief Engineer (Special) in the year under report.

Sri R. Srinivasa Acharya was the Deputy Chief Engineer (Irrigation) from the beginning of the official year till 21st December 1946 and

Sri Rao Sahib M. D. Narasimha Acharya, B.A., B.E., from 11th November 1946 till the end of the year under report.

Sri Rao Sahib A. Venkataramanan was the Second Deputy Chief Engineer for Irrigation from 2nd February 1946 till 21st October 1946 and

Sri V. A. Krishnaswami from 21st December 1946 till the end of the year under report.

#### II. SALIENT FEATURES OF THE ADMINISTRATION—PUBLIC WORKS (IRRIGATION) FOR THE YEAR 1947.

The summary in this chapter is as usual intended to bring the general information up to date to the end of the year 1947.

1. *Cauvery Delta System.*—(i) The irrigation season this year commenced on 1st June 1947 under favourable conditions when the lake level was 109·75. As the monsoon was slow to set in, there was a short period of anxiety, the reservoir touching a low level of 65·80 on 15th July 1947. Once the reservoir began to pick up, there was good inflow and the rainfall in the delta was also sufficient to provide the requisite supplies till the end of October. The reservoir reached its full level on 16th September 1947 and began surplussing. The north-east monsoon, was, however, very disappointing. After the rains in the third week of October, the weather was dry and warm and there was no monsoon rain worth the name. The demand for water was, therefore, unusual for this part of the season and the reservoir had to be rapidly depleted. The turn system for Cauvery and Vennar was also temporarily suspended from 14th November 1947.

(ii) The key schemes for the drainage improvements sanctioned for Rs. 29·63 lakhs were in progress in Cauvery and Vennar divisions and an expenditure of Rs. 2·12 lakhs was incurred.

(iii) In pursuance of the orders of the Government, silt clearance was done at Government cost in several irrigation channels and tank supply channels in the Tanjore Circle which are normally done under kudimaramath. Nineteen tank supply channels and forty-three irrigation channels were silt cleared at an approximate cost of Rs. 40,000.

(iv) Duty experiments were continued at the Pattukottai and Aduthurai Agricultural Research Stations.

II. *Godavari Delta System.*—(i) The area thrown open for second crop cultivation during the year was 72,000 acres in the Godavari Eastern Delta ; this included an area of 9,000 acres thrown open as additional area to give relief to the areas affected by submersion during the first-crop season of 1946. Out of 72,000 acres thus thrown open, only an extent of 63,923 acres were actually cultivated. In the Central Delta an extent of 76 402 acres were thrown open under second crop. The total area open for second crop in the Western Delta was 174,000 acres. This included additional areas of 6,249 acres and 30,000 acres in the Godavari Central and Western Deltas respectively over and above the areas fixed under the localization orders.

(ii) Freshes in the Godavari arrived on 4th July 1947 and transplantation commenced thereafter. About 95 per cent of the first crop area in the Godavari Eastern Delta was transplanted by the end of July 1947. The yield in the Godavari Eastern and Central Deltas was fair and expected to be normal. In the Godavari Western Delta transplantation was slow due to late rains. There were, however, heavy rains after transplantation and some areas suffered from submersion. The crop in other areas was generally satisfactory.

(iii) The special subdivision sanctioned for the scientific investigation of drains and remodelling of channels in the Godavari Eastern Delta was continued. Proposals for the formation of a special subdivision for the investigation of drains from 1st January 1948 for two years in the Godavari Central Delta were under consideration. The subdivision working in the Godavari Western Delta from 1st November 1947 is expected to complete investigation in six months.

(iv) The formation of a roadway on the downstream side of the Gannavaram Aqueduct has been programmed to be completed in two seasons and one season was already over. The whole work is expected to be completed before 31st May 1948.

III. *Kistna Delta System.*—Freshes in the Kistna arrived early and the rise in the river was felt on 2nd June 1947. The river rose steadily and the supply was generally good. The maximum flood level reached was 14·00 over the anicut crest and was maintaining for one hour between 8 and 9 p.m. on 28th September 1947. Transplantation commenced early in the second week of June and was completed by the end of August. With the exception of crops in areas affected by the floods of July, August and October 1947 in the Budameru and Tammileru the crops were generally good in the other parts of the delta and were expected to give a very good yield, due to good river supply and seasonal rains. During 1946–47 an area of about 2,700 acres under Motur channel branch of Gudivada channel was permitted for second crop cultivation and a bumper crop was raised on the area. Proposals to permit second crop to a compact block of 2,500 acres under Polraj canal this year also in consultation with the Collector were under consideration Though the rainfall in the Kistna Western Delta was below normal during June and July, the heavy rains during the latter half of August enabled the completion of transplantation by the end of August and the crops in the delta were expected to give a good yield.

IV. *Kistna East Bank Canal Extension Scheme.*—The canal was re-opened on 15th May and there were sufficient rains during July to September 1947. Supply was adequate and transplantation was completed in time. The standing crops were generally good. There was no damage to irrigation works or crops on account of heavy rains and winds.

V. *Periyar System.*—The opening of the lake for the season was made on the due date, viz., 1st June 1947. The lake surplussed during the latter half of April and the whole of May. The north-east monsoon of 1946 was good. That season closed with a good storage in the tanks. This tempted the ryots in the Melur area to venture upon an extra crop. In view of the critical food situation in the country, the crop though not strictly authorized was brought to successful harvest by affording supplies from the Periyar, obtaining special permission from Government. In addition crops in ears in the non-Periyar areas of Avaniapuram and (Sivaganga) Kanur tanks were also saved with Periyar water, the extents being 750 acres and 1,360 acres respectively. Second crop was raised under many of the tanks in Tirumangalam and Madura taluks.

VI. *Contour bunding.*—The investigation of the scheme for dry farming and contour-bunding in the famine-affected areas of the Ceded districts was already completed. Estimates for contour bunding about 5,500 acres near Guntakal and 2,500 acres near Hagari were already submitted to Government. Orders of Government on both the schemes were still awaited. It was learnt from the Ceded Districts Economic Development Board that Government were contemplating introduction of a bill on contour bunding.

VII. *Grow More Food Schemes.*—(i) Extension of Narasinga Cauvery was in an advanced stage of execution. Further fifteen new schemes at an estimated cost of Rs. 33·49 lakhs designed to irrigate an approximate ayacut of about 11,794 acres (besides ensuring better irrigation facilities to about 28,079 acres of existing ayacut) were also sanctioned during the year—vide list appended.

(ii) Since the inauguration of the Grow More Food Campaign 111 schemes including major and minor ones were sanctioned at a cost of Rs. 171·97 lakhs for irrigating about 165,492 acres including lands under Cauvery-Mettur Project (besides ensuring better irrigation facilities to about 24,200 acres). Of these, 67 schemes had been completed up-to-date.

VIII. *Post-war Reconstruction Schemes.*—The schemes for improving Cauvery Delta, Romperu Drain and Pedalanka Drain were under execution during the year. The Lower Bhavani Project designed to irrigate an approximate ayacut of 207,000 acres was sanctioned during the year at an estimated cost of Rs. 7 crores. For progress made in Tungabhadra and Ramapadasagar projects—vide Chapter VII.

IX. *Research.*—During the year, the Irrigation Research Station made good progress in all directions both at Madras in the Soil Engineering Section and at Poondi in the Hydraulic Section. The Soil Mechanics Laboratory housed in the newly constructed building near the Chief Engineer's (Irrigation) Office is now well-equipped for carrying out the following tests and investigations :—

(*a*) All standard tests in soil mechanics, such as, mechanical analysis, bulk density, moisture contents, liquid and plastic limits, permeability, compaction and penetration, etc.

(*b*) Investigation on earth dams and excavations by means of seepage and electrical analogy models.

(*c*) Tests on water samples for determining dissolved and suspended matters.

(*d*) Chemical analysis of cement, surki, lime and soil samples.

(*e*) Physical tests like specific gravity, voids, characteristics, fineness, heat of hydration, etc., of cement samples.

(*f*) Tension and compression tests on briquettes and cubes of sand cement, soil cement and lime surki samples.

Tests were carried out on hundreds of samples in connexion with various projects and schemes and the laboratory gave training to a Supervisor attached to the Hagari Division and to an Assistant Engineer belonging to the Bezwada Circle. It took part in the Engineering and Industrial Exhibition organized by the Institute of Engineers, South India Centre and arranged suitable exhibits in two stalls.

On 18th December 1947 Hon'ble Mr. N. V. Gadgil, Minister for Works, Mines and Power, Government of India, accompained by the Secretary of his department, Sri B. K. Gokhale and by the Consulting Engineer for Irrigation, Rai Bahadur A. N. Khosla visited the Laboratory and recorded appreciation of the work done.

The following were some of the important studies carried out by the Research Station at Poondi during the year :—

(*a*) Coffer dams for the Ramapadasagar Project—Alignment, stability and seepage.

(*b*) Spillway dam designs for the Ramapadasagar-Tungabhadra, Lower Bhavani, Malampuzha and Vaigai Projects—Profiles, discharge co-efficients, pressure distribution, dissipation of energy and prevention of scours downstream of dams and falls.

(*c*) Anicuts and bed regulators for Dowlaishwaram, Kistna (Bezwada), Sangam, Uttiramerur, Jeddarpalayam and Shiriya Schemes—Profiles, co-efficients· stability and downstream protective works.

(*d*) Regulators, bridge piers, wing wall transitions, canal offtakes—designs and improvement.

(*e*) Exclusion of silt from distributaries.

(*f*) Sand sluices for the Ramapadasagar dam and density currents.

(*g*) Opening of the bar at the sea face of the Cooum river.

During the year studies were taken up to find out economic and easily available substitutes for conventional building materials whose costs had risen abnormally. The Research Station had many distinguished visitors during the year.

X. *General.*—The south-west monsoon was good in the Cauvery and Periyar catchment areas. The north-east monsoon proved disappointing in the southern districts and the seasonal rains were extremely poor. There were local floods in Kistna Delta causing several breaches in August-October 1947. During March and April 1947, there were some damages due to non-seasonal floods in Periyar area.

*List of Grow More Food Schemes sanctioned in the calendar year* 1947.

[Vide paragraph VII (*i*) of Chapter I.]

| Serial number. | Name of the scheme. | Approximate ayacut to be benefited. | Estimated cost. |
|---|---|---|---|
| | | ACS. | RS. |
| 1. | Construction of a lock at Podalada in the Gannavaram Canal at mile 34/4, Razole taluk, East Godavari district (for providing irrigation facilities to the existing ayacut of 17,774 acres) (G.O. No. 247, P.W., dated, 28th January 1947) .. .. .. .. .. | No new ayacut. | 1,37,500 |
| 2. | Extension of Ponukumada channel and providing a branch channel in Kistna Eastern Delta (for providing better irrigation facilities to the existing ayacut) (G.O. Ms. No. 517, P.W., dated 27th February 1947). | Do. | 13,510 |
| 3. | Pedda Kandaleru Project, Vinukonda taluk, Guntur district (G.O. Ms. No. 552, P.W., dated 1st March 1947) .. .. .. .. | 650 | 3,80,000 |
| 4. | Providing irrigation facilities to dry lands in Mandavalli and Chigurukota blocks in Kaikalur taluk, Kistna district (G.O. Ms. No. 553, P.W., dated 1st March 1947). | 863 | 32,000 |
| 5. | Providing irrigation facilities to dry lands in Rachapatnam village, Kistna district (G.O. Ms. No. 727, P.W., dated 15th March 1947) . .. | 530 | 32,800 |
| 6. | Remodelling and extending No. 5 Gollapalem channel for providing irrigation facilities to Kona block, Bandar taluk, Kistna district (G.O. No. 1106, P.W., dated 16th April 1947) .. .. .. . | 1,700 | 40,000 |
| 7. | Restoration of Mella tank of Gotipadhya village, Markapur taluk, Kurnool district (G.O. Ms. No. 719, P.W., dated 15th March 1947). ... .. .. | 300 | 54,500 |
| 8. | Construction of an anicut across the Cheyyar at the head of the Uttiramerur tank supply channel, Conjeevaram taluk, Chingleput district (G.O. Ms. No. 997, P.W., dated 8th April 1947) .. .. | 1,000 | 3,85,000 |
| 9. | Construction of a bed regulator across the Cauvery at Jeddarapalaym at the head of Raja's channel (providing irrigation facilities to the existing ayacut of 5,382 acres) (G.O. Ms. No. 94, P.W, dated 13th January 1947) .. .. .. .. .. | No new ayacut. | R. E. 6,44,200 |
| 10. | Improvements to Alivoikkal drain and seven other drains in the Cauvery-Mettur project area (G.O. Ms. No. 550, P.W., dated 1st March 1947) .. .. | 4,323 | 6,62,970 |
| | | 1,696 | |

| Serial number. | Name of the scheme. | Approximate ayacut to be benifited. | Estimated cost. |
|---|---|---|---|
| | | Acs. | Rs. |
| 11. | Excavating a new branch channel from Mevani distributary from M. 8/3½, Kugalur branch channel, Gobichettipalayam taluk, Coimbatore (G.O. Ms. No. 718, P.W., dated 14th March 1947) .. .. .. | 263 | 55,000 |
| 12. | Extension of irrigation in Pittalanka village, Divi taluk, Kistna district (full contribution work). (This office No. 5413/43 CEP, dated 28th April 1947) .. .. | 662·84 | 22,000 |
| 13. | Reclamation of lagoon at 56/0 of K.C. Canal (Ravula Cheruvu), Nandikotkur taluk, Kurnool district (G.O. Ms. No. 3413, P.W., dated 15th November 1947) .. | 700 | 4,80,000 |
| 14. | Extension of irrigation under the Chejerla channel, Atmakur taluk, Nellore district (G.O. Ms. No. 3329, P.W., dated 8th November 1947) .. .. | 555 | 46,000 |
| 15. | Fitting up falling shutters to Kattalai Bed Regulator, Trichinopoly district (G.O. Ms. No. 2834, P.W., dated 17th September 1947) .. .. .. .. | 2,875 | R.E. 3,61,600 |
| | Total .. | 11,794 | 33·49 lakhs. |

## Chapter II.

### A Bird's-eye View of Irrigation in Madras Presidency.

A brief summary of the irrigation systems in the Presidency is given below.

In the Circars, we first have in the extreme north of the Presidency, the Bahuda River and Padmapuramgedda irrigating an extent of 6,000 acres ; next the Chicacole Minor Rivers system comprising a number of channels taking off from the rivers the Vamsadhara and the Langulya and also the hill stream Garibulagedda and irrigating about 67,000 acres. The Nagavalli system irrigates the next largest area in Vizagapatam district. By means of a regulator across the river at Thotapalli, sufficient water is diverted through a main canal and its branch channels to irrigate roughly 28,000 acres. The project was completed in 1909 and has been of great benefit to the ryots. In the southern portion of the Vizagapatam district, there are again a number of channels taking off from the Varaha and the Sarada rivers. The former system irrigates about 18,000 acres and the latter 9,000 acres.

The next is the Godavari delta. To those who have not the local knowledge the fact that the value of the crops now grown annually in this delta is several crores will convey a very meagre idea of the benefits of irrigation. The Godavari ryots have recently erected at Dowlaishwaram, Bobberlanka and Chettipetta statues to commemorate the memory of Sir Arthur Cotton, the originator of the scheme, and by doing so have shown their appreciation of what he has done for the district by his monumental works for securing copious supply of precious water to their lands. Roughly one and half million acres of both first and second crops are irrigated by the net work of canals and channels thousands of miles long; the value of the crops grown annually exceeds nine crores. The canals have been designed not only for irrigation but also for navigation. Sixty locks have been built and more are being considered. About 400 miles of canals are navigable for boats up to 90 tons capacity and the major part of the exports and imports from and to the delta is conveyed by boat. That this connected system of navigation has helped a great deal to the prosperity of the Godavari and the Kistna ryots will be appreciated when it is stated that the cost of transport to Madras by water is only one-eighth to one-tenth of the cost of transport by cart or other means. For instance, the cost of transport per bag of rice from the Cocanada port to Rajahmundry is 6 pies whereas that from Negapatam port to Tanjore is four annas even though the distance to be covered is the same in both the cases ; this is because water transport is available in the former and not in the latter case. By means of the Godavari and Kistna canals and Buckingham Canal, one can go by boat from Madras to Cocanada, a distance of 400 miles, and from Rajahmundry one can continue the journey by boat beyond Bhadrachalam right up to the Central Provinces, a further distance of 188 miles.

The next is the Kistna delta. Just over a century ago, famines were recurrent in these parts and the appalling conditions that were then prevailing induced the Government of the day to push forward the Godavari and Kistna projects. At Bezwada in the Kistna district, an anicut was built across the Kistna in 1855 (shortly after the completion of the anicut at Dowlaishwaram). The anicut diverts water through a net work of canals and channels to irrigate over 9 lakhs acres in Kistna and Guntur districts. The Kistna canals are also navigable and the greater part of the trade of the deltaic portions of the two districts is carried on by boats. Our Godavari and Kistna projects are probably the most beneficial and most successful irrigation schemes ever executed by any Government in the world. They have improved the condition of the people of the districts beyond the highest expectations of the originator, while the return on the capital invested in building them has sufficed not only to maintain and keep the systems up to date but has provided a continuous source of revenue which has enabled Government to initiate other projects, far less attractive financially in less favoured districts.

It should be stated here that we have till now utilized only six per cent of the annual flow of the Godavari and seven per cent of the annual flow of the Kistna and we are still a great way from utilizing the large quantity of water that flows to the sea.

Leaving the rich districts of Guntur and Kistna and coming down to Nellore, we meet a dry and barren district but advantage has been taken of such facilities as exist for extending irrigation. Near the sea coast, the rainfall is generally favourable, and with the addition of some extra water, supplied by means of irrigation, excellent crops are grown. Nellore rice is famous for its quality. Two anicuts across the Pennar divert water to the Kanigiri and the Sarvapalli reservoirs and about 165,000 acres of paddy are cultivated under them annually. Further inland, the Mopad Reservoir built in 1921 as a famine-protective work has fulfilled the purpose for which it was intended.

Leaving Nellore, we shall divert from our course for a few moments and strike west and north-west to have a glimpse at Cuddapah, Kurnool, Bellary and Anantapur districts. These districts known as " Rayalaseema " are in the famine zone and are periodically liable to failure of rain and consequent drought. Irrigation in Rayalaseema is by the very nature of the country difficult. Rainfall with its consequential river and stream flow is the first requirement for a successful irrigation scheme and when rain fails in the locality we propose to benefit, we must look to some external source, for example, a river whose main catchment area is outside the districts liable to failure for supply. Irrigation schemes in Rayalaseema depending on local rains must, generally speaking, be of doubtful utility. Proposals for tapping the supplies from the perennial Thungabhadra have been under examination, for a pretty long time and it was only recently that an agreement was arrived at between the Hyderabad and Madras Governments in the matter of sharing the water for irrigation purposes. The reservoir to be formed by constructing a dam at Mallapuram near Hospet is designed to have a capacity of about 110 T.M. cubic feet and irrigate over one million acres in the Madras and nearly an equal extent in the Hyderabad territories. The cost is estimated at about 10 crores of rupees. The Government have since sanctioned the execution of the scheme and posted special staff therefor. It is hoped that the spectre of famine in the Rayalaseema will vanish with the completion of the project in spite of the general deficiency of rainfall and the heavy black cotton soils in these parts. The Kurnool-Cuddapah canal which flows through a black cotton belt has not been successful though in years of deficient rainfall its water is eagerly sought after by the ryots for their crops.

South from Nellore we come to Chingleput where there are no major irrigation schemes, but about 450,000 acres are irrigated by as many as 653 tanks. The district is peculiarly suited to tank irrigation; rainfall is generally favourable and the topography of the district favours this method of irrigation.

In South Arcot district also, there is a large number of tanks which irrigate over 300,000 acres. In addition, advantage has been taken of the fact that the district is traversed by two fairly large rivers, the Penniar and the Vellar. An anicut across the Penniar at Tirukkoyilur diverts sufficient water for about 30,000 acres.

Regulators combined with road bridges have been built across the Vellar at Toludur and the Shatiatope ; the former diverts water to Willingdon reservoir for over 25,000 acres (the avacut is still expanding) and the latter diverts water through the Vellar Rajan channel and its branches to irrigate about 34,000 acres between Cuddalore and Porto Novo. Coleroon water is diverted at the Lower Anicut to irrigate about 118,000 acres in Chidambaram taluk. Besides, there are two anicuts at Vriddhachalam and Mehmattur across Manimutha nadhi, a branch of the Vellar, which irrigate about 10,000 and 5,000 acres respectively.

Deviating from the southerly course for a few moments, we meet the North Arcot, Salem and Coimbatore districts. The Palar river which rises in Mysore is the main feeder for North Arcot. Water is diverted through a series of canals and channels of the Palar anicut, 15 miles from Vellore, to irrigate over 100,000 acres. The district had many old tanks which have been retained and which now form an essential part of the system. Flow in the Palar is intermittent and in the old tanks the flood flow of the river is stored which without tanks would be wasted over the anicut. The Poiney anicut in the same district irrigates over 36,000 acres. The Cheyyar anicut also in the same district irrigates over 37,000 acres.

The Salem district is particularly not favoured by nature. The largest irrigation scheme in it is Barur. An anicut across the Penniar diverts water to the Barur reservoir which irrigates over 7,000 acres. The district depends mainly on tanks many of which get a supply over and above that contributed by their own catchment through channels taking off from anicuts built across adjacent streams. Though Mettur reservoir is in the district it has not been possible owing to very unfavourable conditions to devise any scheme to benefit Salem from this source. The Cauvery channel in Namakkal taluk irrigates 7,000 acres of very rich and fertile lands. Proposals are however under consideration to provide irrigation for about 40,000 acres of lands in the district by pumping from the river Cauvery.

The Coimbatore district depends mainly on the Bhavani which irrigates at present a large area of paddy. There are in addition several tanks and the waters of the Chitrachavadi, the Noyel and the Amaravathi are also utilized to the greatest extent possible by means of anicuts.

Continuing the southerly route from South Arcot, Tanjore is reached. Irrigation of about 7·8 lakhs of acres has been practised in Tanjore for centuries and with the modern works recently built, the ayacut now is about 9 lakhs of acres. The Cauvery-Mettur Project completed in 1934 is intended to ensure supply to the new delta as well as to extend irrigation by 301,000 acres in Pattukkottai, Mannargudi and Arantangi taluks. Tanjore has had a hoary tradition of irrigation works dating back to some 2,000 years. The benefits of Mettur reservoir to landholders in Tanjore delta are manifold. The reservoir acts as a flood moderator and protects the Tanjore ryots from the ravages of the Cauvery floods in the south-west monsoon to which they were subject hitherto. It secures to the ryots the benefits of early supplies in June and ensures steady and regular flow throughout the irrigation season.

The Trichinopoly district, like Tanjore, depends mainly on the Cauvery for its irrigation and prosperity. Many channels take off directly from the river to irrigate about 135,000 acres of fertile valuable lands.

Madura benefits mainly from the Periyar project. A dam built across the Periyar river in Travancore holds up water in the Periyar lake and a tunnel 5,700 feet long, conveys this water to the Vaigai valley and thence to Madura. One hundred and thirty-four thousand acres roughly are irrigated by the Periyar project. The difference that this scheme has made to the prosperity of Madura district is enormous. The chief merit lies in its sociological effects on the population of the district. The Kallars and Maravars whose habits of life were none too helpful to the society have now settled down in peace and prosperity to tilling land and adding to the wealth of the country.

The Tinnevelly district, which adjoins Madura, depends mainly on the Tambraparni river across which several anicuts have been built to irrigate about 75,000 acres. The irrigated portion of Tinnevelly is noted for its fertility.

In Tinnevelly, the Papanasam hydro-electric scheme involving a dam 170 feet high on the Tambraparni has been completed. Though the reservoir is formed mainly for power, it will benefit irrigation also.

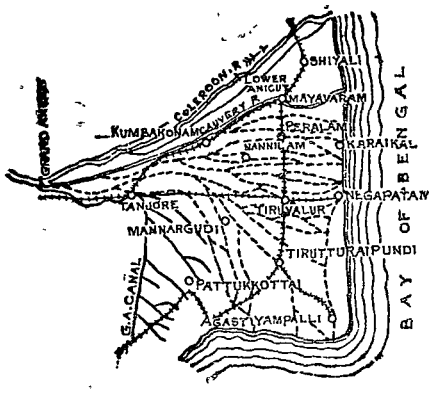
Tank irrigation is of the greatest importance in this Presidency where 2,670,000 acres are irrigated under tanks. Similarly, wells are another important source of supplies and are responsible for irrigation of about 1,540,000 acres. Attempts are being made to extend well irrigation by means of electric pumps in suitable areas.

## Chapter III.

### Brief Description of Important Irrigation and Navigation Works.

*The Cauvery Delta System.*—The Cauvery rises in Coorg and flows for a considerable distance over the Mysore plateau. It then drops into the plains of Madras at the Hogainkal or Megadatu falls. The chief tributaries of the river are the Hemavathi, Lakshmanathirtha and Kabbini in Mysore and the Bhavani (rising on the Nilgiris) in Madras. The Cauvery is 5 0 miles long and drains 31,000 square miles. The river benefits by the south-west and north-east monsoons and irrigates a large area in Mysore before it enters Madras. There are two big reservoirs on the river—the Krishnarajasagara near Mysore and the Stanley reservoir near Salem. Hydro-electric power is developed at Sivasamudram and at Stanley Dam at Mettur, at the former by utilizing the natural fall of the river and at the latter by utilizing the head due to storage at the dam.

Irrigation in the Cauvery Delta System is of great antiquity dating back to the ancient Hindu kings of Tanjore—said to be about the second century B.C. The delta begins at the head of the Srirangam Island where the river divides into two, the right arm called the Cauvery carrying irrigation supplies and the left arm, the Coleroon being the flood carrier. There is a barrage with lift shutters—the Upper anicut—across the Coleroon at its head to divert requisite supplies to the Cauvery over the Cauvery dam.



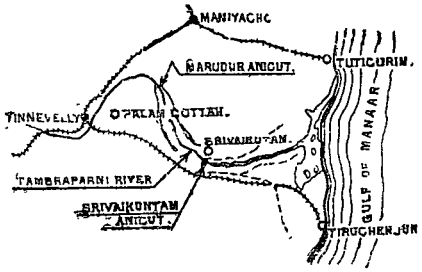

About 20 miles below the Cauvery dam is the Grand Anicut, an ancient masonry anicut built across a by-pass from the Cauvery into the Coleroon below the Srirangam Island. This anicut, intended to hold up and divert the normal flow of the Cauvery to the rivers supplying Tanjore delta, was converted into a regulator with lift shutters to permit effective disposal of surplus from the Cauvery and for passing supplies to the Lower Coleroon Anicut System.

At the Grand Anicut, the Cauvery branches into the Cauvery and the Vennar, which in turn throw off a number of branches and irrigate the fertile lands of the Tanjore delta, the well-known " Granary of South India." The new Grand Anicut canal of the Cauvery-Mettur Project also takes off at this point.

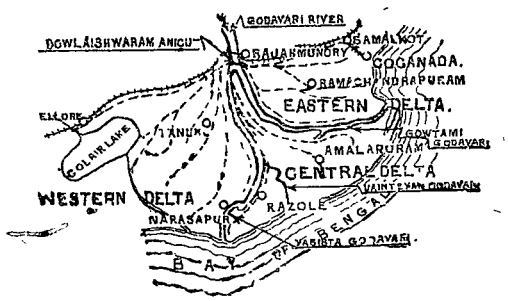
The delta is long, fertile and level, some 2,000 square miles in area with a seaboard over a 100 miles long extending from Point Calimere to the south as far north as Porto Novo and some distance beyond to Cuddalore. It is served with a net work of rivers and channels, supplies into which are controlled by several regulators. Many of the smaller rivers of the delta function both as irrigation and drainage channels.

The area irrigated under the Cauvery Delta System alone is about 870,000 acres (first crop) and just over a million acres including the second crop. The value of the crops yielded is about Rs. 9·82 crores Over 87 lakhs have been spent on improvements since the system was taken over from the Tanjore kings. The system yields a return of about 12·47 per cent on the capital outlay after giving credit for about 38 lakhs of rupees towards old revenue.

*Srivaikuntam Anicut System.*—The Srivaikuntam anicut is the last of the anicuts across the Tambraparni in Tinnevelly district. Two channels take off at the anicut. On the left is the North Main channel feeding a series of tanks and finally emptying into the Morumpallam tank. On the right side, the South Main channel takes off and supplies the large Kadamba tank and a series of tanks below it and irrigation under it extends as far as Tiruchendur with its famous temple on the seashore. The system irrigates about 26,000 acres. The capital expenditure was about Rs. 17·75 lakhs and the return is 5·58 per cent on the outlay.




*The Godavari Delta System.*—The Godavari rises in the Western Ghauts within 50 miles of the Arabian sea and flows across the Peninsula for 900 miles before it falls into the Bay of Bengal. Its chief tributaries are the Manjira from Hyderabad and the Pranahita made up of three smaller streams from the Central Provinces, the Indravathi and the Sabari. Shortly after the Sabari joins it, the Godavari now deep and narrow winds its way through the spurts of the Eastern Ghauts and for 2 miles it flows through a picturesque gorge clothed with luxuriant tropical vegetation. Some distance below, it leaves the last ranges of the Ghauts, enters the plains at Polavaram and flows onward as a broad and shallow river until some distance below Rajahmundry where it divides into two main branches, the Gautami and the Vasishta Godavari rivers. Between the two arms lies the central delta, while the eastern and western deltas lie to the east and west of the two arms respectively. The two arms split up into branches, as they approach the sea, dividing the central delta into a number of islands. The river drains about 115,000 square miles and carries as much as 1½ million cubic feet per second in very high floods.




Prior to 1840, the Godavari district was frequently the scene of bad famines. In 1832–33, a terrible famine ravaged the district and the calamitous famine of 1840–41 followed after some more bad years. The recurring famines, the decreasing population and the dwindling revenue spurred the Government to action and Major Cotton (later Sir Arthur Cotton), who had just then completed great improvements in Tanjore, proposed the construction of an anicut across the Godavari at Dowlaishwaram with three canals, one for each of three deltas. The works were sanctioned almost immediately and carried out expeditiously under his guidance. It is to the genius, keenness and intrepidity of Sir Arthur Cotton, that Madras owes these monumental works unprecedented both as to type and magnitude and which have proved to be a veritable gold mine.

The Godavari anicut system consists of an anicut and three main canals irrigating three deltas. The anicut is in four sections, linking the islands in the broad river, the Dowlaishwaram section 4,839 feet long, the Ralli section 2,859 feet long, the Maddur section 1,550 feet long, and the Vazeswaram section 2,601 feet long. It was subsequently found necessary to raise the anicut slightly and fit up falling shutters, 2 feet high on the crest. In 1935, the two feet shutters were replaced by three feet shutters. The shutters which fall automatically during floods are lifted as the flood subsides by means of power-operated ploughs, so as to maintain the requisite water level in the river.

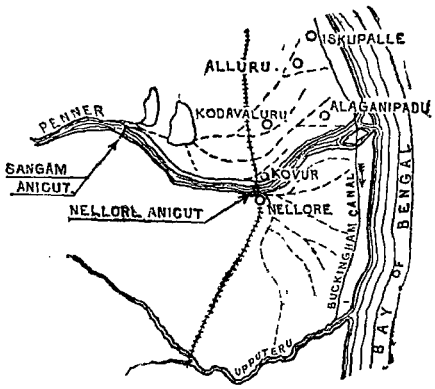
The head works of the canals consist of a head sluice, and under sluice and a head lock for each of the three deltas. The eastern delta is about 450 square miles, the central delta 500 square miles, while the western delta about 1,000 square miles in extent stretches down to the Collair lake.

In the eastern and western deltas, the Samalkota and Ellore canals define the limits of irrigation to the areas enclosed between them and the river Godavari. They also form the link between Cocanada Port and Ellore town where the (Kistna) Ellore canal of the Kistna Delta System joins the (Godavari) Ellore canal. The central delta, particularly the " Nagaram " island, is the " Garden of the Godavari district " and is noted for the Gannavaram aqueduct which was completed in about eight months in the fifties of the last century, a remarkable feat due to Captain Orr. The Polavaram aqueduct at Annampalli is a similar recent construction to irrigate Polavaram island. The river and its branches are banked throughout to protect the deltas from the floods.

The net-work of canals in all the deltas are navigable throughout their length for eleven months in the year and carry annually cargo valued at nearly Rs. 24·71 crores besides timber worth about Rs. 2·40 crores and passengers over a million a year.

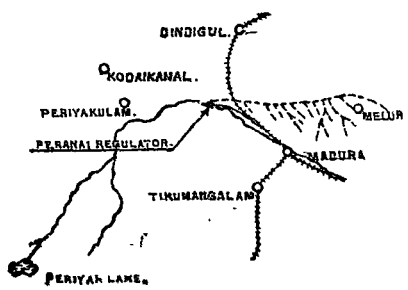
The canals irrigate about 820,000 acres but the total area irrigated during the year including the second-crop area is over 1 million acres. The value of crops grown is Rs. 11·77 crores. The capital outlay on the system is about Rs. 2·20 crores and the return is 18·22 per cent.

*Pennar River Canals System.*—The system consists of two anicuts, one at Sangam and the other at Nellore. Two canals take off at the Sangam anicut and the left, one to feed the Duvvur tank and the other the large Kanigiri tank, one of the largest tanks in the Circars. Another channel taking off at right side of the anicut feeds the Nellore tank. At the Nellore anicut about 20 miles down stream of Sangam, a canal takes off on the right and feeds a number of tanks, the largest of which is the Sarvapalli tank. The Sangam anicut has recently been raised by 1 foot and with Nellore anicut system irrigates about 167,500 acres; the capital expenditure is Rs. 71 lakhs and the return is 5·88 per cent.



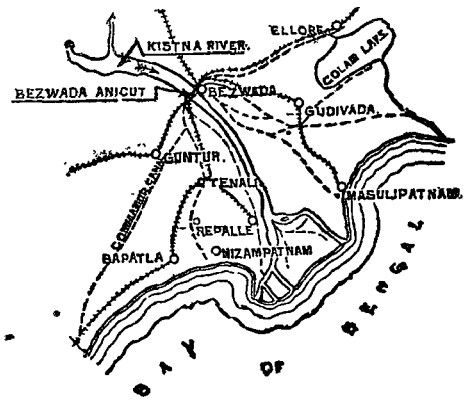

*The Shatiatope Anicut System.*—The system is a combined tank and canal system served by the Vellar Rajan channel taking off from the Shatiatope anicut across the Vellar. The old anicut was converted into a bridge and regulator fitted with lift shutters about 1906. The system irrigates about 33,000 acres in South Arcot district and irrigation extends almost as far east as Cuddalore. The Perumal tank is one of the largest tanks and is the terminal tank of the system. The capital expenditure on the system is about Rs. 11 lakhs and the return is 9·23 per cent.

*The Periyar System.*—The main feature of the Periyar System is the diversion across the Peninsula into the Bay of Bengal of a large river which nature had ordained should flow into the Arabian Sea. A huge dam across an inaccessible gorge in Travancore, about 3,000 feet above sea level, in malarial ridden jungle, forms a picturesque lake in the hills with a useful capacity of about 9,800 million cubic feet. The project is due to the genius of Colonel Pennycuick. The dam is of concrete



with a masonry facing on the lake side about 170 feet high above river bed at the deepest point. A tunnel 5,700 feet long has been bored through the ridge on the east to carry the waters of the lake to the plains of Madura. The water flows into the Suruliyar, tributary of the Vaigai, and after irrigating about 12,700 acres in the Suruliyar Valley, is again picked up at the Peranai regulator across Vaigai about 80 miles downstream of the tunnel and diverted into the Periyar main canal about 35 miles long. The system irrigates about 143,000 acres in Madura district. The capital expenditure on the system is about 108 lakhs and the return is about 6 per cent.

*The Kistna Delta System.*—The Kistna rises in the Western Ghauts near Mahabaleswar, some 4,000 feet above the sea level and runs southwards through the Bombay Presidency for some distance before it turns east into Hyderabad and receives the Bhima. Further down the Tungabhadra joins it and from here the river is for a considerable distance the boundary between Madras and Hyderabad. The last important tributary to join is the Musi. The river after flowing through a narrow gorge in the Nallamalais enters the plains of the Coromandal coast studded with hills. The last of the three hills is at Bezwada where the river flows between two of them hardly 6 furlongs apart. Stretching away on both sides of the river beyond Bezwada lie the two sections of the delta, the eastern delta lying on the left side and the western delta lying on the right. For 40 miles below the river runs in a single stream. It then throws out the Puligedda branch. Between this and the main river lies the Divi island. The main river then flows for 15 miles and splits into three branches before it empties into the sea. The river drains 97,000 square miles and its flood discharge is about a million cubic feet per second.

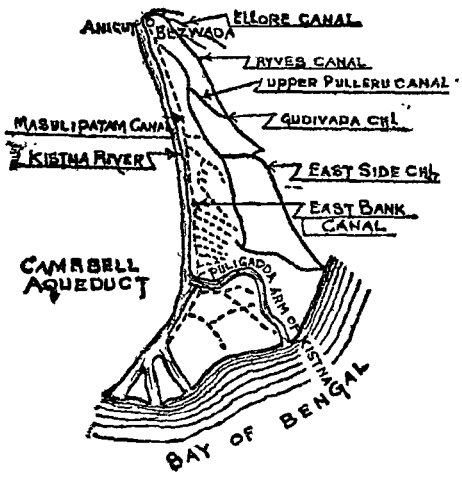



The history of the Kistna anicut follows almost the same course as that of the Godavari. Sir Arthur Cotton, who built the Godavari anicut, was again responsible for the anicut at Bezwada with its two canals, supplying the two sections of the delta on either bank of the river.

The anicut is about 6 furlongs in length ; its crest was raised at a later date by one foot and fitted with three feet falling shutters to improve the supplies to the delta. In 1935 even this was found insufficient and 6 feet falling shutters were substituted. The shutters are tripped by hydraulic pressure to pass floods and a steam plough is used to lift them up as the flood subsides. The head works of each canal consist of head and under sluice and a head lock.

The eastern delta has an area of about 1,160 square miles and stretches as far north as the Collair. The western delta is about 950 square miles and extends to the south as far as Pedda Ganjam. The Kistna-Ellore canal in the eastern delta connects the Godavari-Ellore canal in the north and the Commamur canal of the western delta joins the Buckingham canal in the south. These contour canals and the interior canals form a net-work of irrigation and navigation canals affording means of irrigation and transport for the two deltas. The Divi island was irrigated with water pumped from the river by Diesel engine driven pumps. Pumping from the river was the practice till 1935 when the Campbell aqueduct was built at Puligedda to carry the Kistna East Bank canal across the river to Divi. This canal now irrigates by direct flow the entire ayacut in the Divi island.

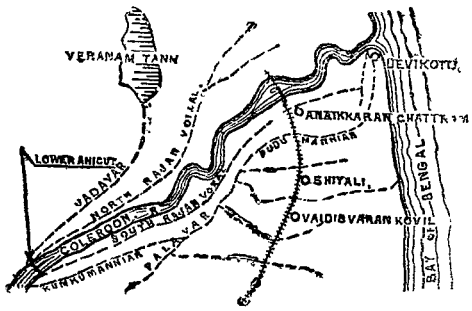
The Kistna East Bank canal takes off at about mile 4/0 of the Masulipatam canal. The canal is navigable and runs alongside the river for a considerable distance before it crosses the Puligedda arm of the Kistna river by the Campbell aqueduct. The aqueduct is the longest reinforced concrete aqueduct bridge in India and carries a roadway 16 feet wide and a footpath 4 feet wide. The aqueduct is submersible during the high floods. The capital expenditure on the canal is Rs. 58 lakhs and the return is 7·76 per cent.



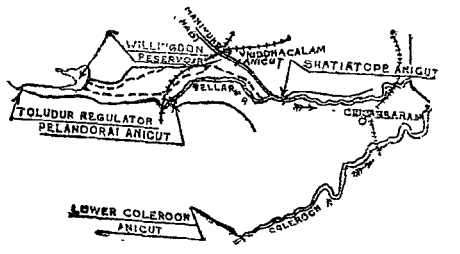

The river and its arms forming the Divi island are banked to protect the delta from floods.

The canals are navigable for about 10 months in the year and carry annually cargo valued at about Rs. 16·35 crores, timber worth about Rs. 44·59 lakhs and over 2 lakhs of passengers. The system irrigates about 930,000 acres excluding the Kistna East Bank canal. The value of the crops grown is about Rs. 12 crores. The capital expenditure is Rs. 2·28 crores and the return is 16·20 per cent.

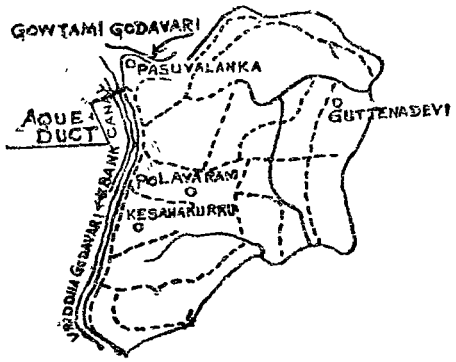
*Lower Coleroon Anicut System.*—The lower anicut across the Coleroon was built about 1840 by Sir Arthur Cotton to ensure supply to the areas originally irrigated by river channels. The old works were substantially improved in 1906. The weir was converted into a regulator of 70 vents fitted with lift shutters 33 feet 4 inches span and 8 feet high. The Vadavar and North Rajan channels taking off on the left side irrigate lands in the Chidambaram taluk of the South Arcot district. The Kumikimanniyar and South Rajan channels take off on the right and irrigate lands in the Shiyali taluk of the Tanjore district. The Vadavar is a contour canal supplying the large Veeranam tank, which also supplements supplies in the river valleys through a sluice at its northern end. The system irrigates about 118,700 acres. The capital expenditure is Rs. 30 lakhs and the return is 9·17 per cent.



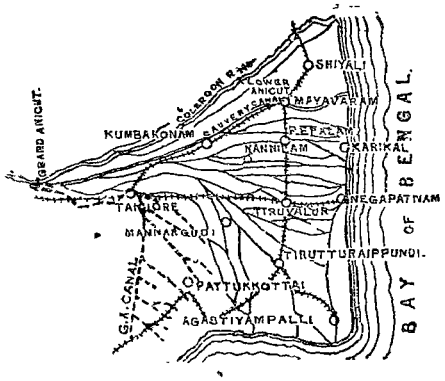

*Willingdon Reservoir.*—Originally known as the Toludur Project is a comparatively new work in South Arcot district opened in 1923. There is a bridge and regulator fitted with lift shuttersacross the Vellar at Toludur from which a canal three and a half miles long takes off and feeds the reservoir which has a capacity of about 2,400 million cubic feet. The bridge carries the Great Southern Trunk Road from Madras to Trichinopoly. From the reservoir a channel takes off and branches into the high and low level channels a short distance below the head. The system now irrigates about 25,000 acres. The capital expenditure on the system is about Rs. 26 lakhs and the return is 2·71 per cent.



*Polavaram Island System.*—The system consists of a canal taking off the Bank Canal of the Godavari Central delta about half a mile above Annampalli lock. The canal exceeds the Vriddha Goutami by a masonry aqueduct and irrigates the Polavaram island enclosed by the two branches of the Goutami Godavari. The system irrigates about 17,500 acres in East Godavari district. The capital expenditure is about Rs. 17 lakhs and the return is 5·5 per cent.




*Cauvery-Mettur System.*—While the south-west monsoon in the hills is fairly heavy and dependable, the north-east monsoon supplies to the Cauvery are irregular. The caprices of the north-east monsoon have frequently affected cultivation in Tanjore. Moreover, there is usually a break of about six weeks between the two monsoons during which period the supply in the river is very low and insufficient for irrigation requirements. The chief aim of the Cauvery-Mettur system is to remedy this state of affairs by storing the excess water during floods and passing it down later when the natural flow in the river falls below requirements. It is also intended to irrigate 301,000 acres of new land chiefly in the Mannargudi, Pattukkottai and Arantangi taluks of the Tanjore district.



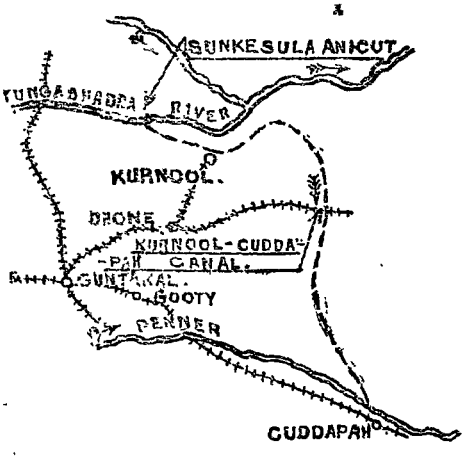

The system consists of a large reservoir at Mettur known as the Stanley reservoir and a canal known as the Grand Anicut canal in Tanjore taking off above the Grand Anicut.

The Stanley reservoir has a waterspread 60 square miles in area and holds 93,500 million cubic feet of water when full. The lake is formed by a masonry dam across the valley of the Cauvery. It is 5,300 feet long and 214 feet high at the deepest point. It is almost the biggest dam in the world and costs Rs. 4·8 crores. There are two sets of sluices in the dam, the high and low level sluices with sills at +720 and + 670 while the F.R.L. is + 790 and the M.W.L. is 796·00. The river floods are surplussed over an escape at the left flank fitted with lift shutters 60 feet long and 20 feet high and an emergency escape at the right flank. The design however provides for raising these by 10 feet high if it becomes necessary. The sluices and the surplus shutters are worked by electric power but it is possible to work any of them by hand if required. The dam also incorporates four sets of cast iron lined sluices 8 feet 6 inches diameter. These enable supplies to be drawn for the development of hydro-electric power below the dam and a hydro-electric power station has been built below the dam and is in operation since 1937. Irrigation supplies for the new area under the reservoir are passed into the river below the dam and picked up at the Grand Anicut about 120 miles downstream. The new canal called the Grand Anicut canal is a contour canal about 70 miles long has costed about Rs. 200 lakhs. It runs through Tanjore town, after passing which it throws out the large Kalianodai and Rajamadam branch canals. Down below there is a net work of branch channels and the system irrigates lands as far south as the Narasingha Cauvery.

The system is under development. It now irrigates about 332,000 acres. The capital outlay is Rs. 6·5 crores and the present rate of return on capital is 1·54 per cent.

*Kattalai System.*—The South Bank canal was excavated to replace the four old korambu channels—Marudur nattu voikal, Mahadanapuram channel, Nangam channel and Uyyakondan channel taking off from the right bank of the Cauvery in Trichinopoly district, as irrigation under them was troublesome and uneconomical. Because the river-bed at the head of the South Bank canal had been badly scoured by the 1924 floods a bed regulator was constructed there. Five furlongs below its head, the canal divided into the High Level channel and the South Bank channel. The system irrigates about 67,000 acres. The capital expenditure was about Rs. 41 lakhs and return is 3·75 per cent.

*Kurnool-Cuddapah canal.*—The Kurnool-Cuddapah canal takes off from the Thungabhadra from an anicut at Sunkesula about 15 miles upstream of Kurnool. The anicut and canal were constructed by the Madras Irrigation and Canal Company, Limited, incorporated in England in 1858 with a guarantee of 5 per cent interest on outlay. The work was completed about 1870 and was handed over to Government on payment of Rs. 3·02 crores. The canal provided for irrigation of 76,500 acres in Kurnool and Cuddapah districts but the irrigated area varies within wide limits from year to year. The canal runs parallel to the river for about 50 miles when it takes a turn southwards towards Cuddapah district and pierces the ridge between Pennar and Kistna valleys through a cutting called Mittakondala cutting. Below this point the Kali and Kundu rivers are utilized to carry the irrigation supplies, the canal serving mainly as navigation canal. There are anicuts across the Kundu river at Santhajuttur and at Rajoli at which the canal supplies are again picked up and used for irrigation in the Kurnool-Cuddapah canal and its branches. At about mile 180, the canal crosses the Pennar at Adinimeyapalli anicut and is continued on the right as far as Cuddapah town. The Kurnool-Cuddapah canal flows through black cotton soil and irrigates mostly dry crops. These crops do not require canal supply in years of good and well-distributed rainfall but in other years they require occasional irrigation. The canal is maintained at a heavy and recurring loss particularly because of its use in famine years The canal was navigable throughout till 1934 when the reach below Lockinsula at mile 74/0 was closed to navigation, as there was little boat traffic, and costly replacement of a number of lock gates below Lockinsula was found involved.




The capital expenditure on the canal is about Rs. 234 lakhs and the return is about 0·67 per cent. It is the most expensive project (excluding Cauvery-Mettur Project) in Madras.

*Barur Tank System.*—The system consists of an anicut across the Ponniar at Nedungal, with a supply channel feeding the Barur tank in Salem district. The supply channel also feeds a number of small tanks on the left bank while the two old channels, the Nedungal and Agaram channels, feed small tanks on the right bank.

The work on the tank and the supply channel was commenced as a famine relief work in 1877 and subsequently revised to include the anicut, etc. The work was completed in 1899. The system irrigates an area of about 7,000 acres.

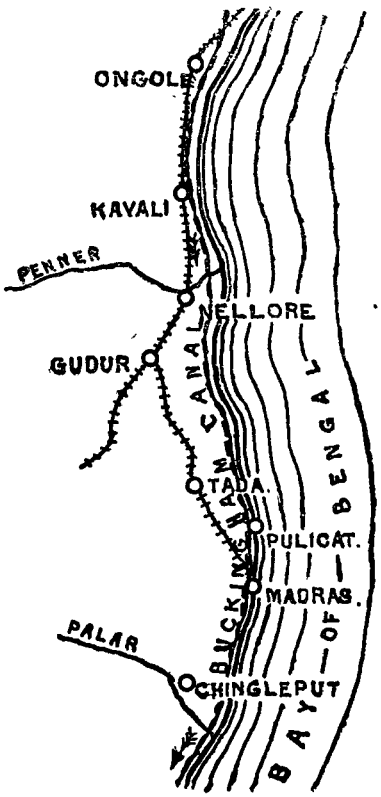
The capital expenditure is Rs. 4·5 lakhs and a return of 3·42 per cent is now obtained.

*Nagavalli River System.*—At Thottapalli in Vizagapatam district a regulator has been built across the Nagavalli river and a channel about 22 miles long has been dug. The channel irrigates about 27,900 acres. The capital expenditure is about Rs. 18 lakhs return being about 2·50 per cent.

*Bhavanasi tank.*—This is a reservoir formed by an earthen bund about 2,500 feet long and 30 feet high across the Bhavanasi river in Guntur district with a capacity of about 175 million cubic feet. The reservoir irrigates about 700 acres. The capital expenditure is Rs. 2·65 lakhs and the return is 0·31 per cent.

*Mopad System.*—The Mopad system consists of a reservoir with an earthen bund about 70 feet high at the deepest point and more than a mile long, built across the Manneru river in Nellore district. The reservoir has a capacity of about 2,100 million cubic feet and irrigates lands in a tract where famines are frequent. The system irrigates about 12,500 acres. The capital expenditure on the system is about Rs. 24 lakhs and the return is 0·61 per cent.

*Buckingham canal.*—This canal is used entirely for navigation. It runs through Madras parallel and close to the Coromandel coast, joining up a series of natural backwaters and connects all the coastal districts with Guntur and South Arcot at the ends. The canal runs for 196 miles north of Madras and 62 miles south of Madras. At its northern end it is connected with the Commamur canal at the Kistna delta which in turn is connected to the Godavari canals running as far north as Cocanada. Due to its alignment close to the coast, the canal is difficult and costly to maintain. The navigability of the north canal is difficult and costly to maintain. The navigability of the north canal depends on the open sea bars at Ennore and Pulicat. In a bad year, water levels may drop and lead to considerable difficulty in navigation. The canal carries a large traffic in salt, shells, firewood, building materials and foodgrains and is one of the main feeders to the Madras market. It carries cargo of an estimated value of about Rs. 20·73 crores and about 98,000 passengers every year. The capital expenditure on the system is Rs. 95·72 lakhs and the return is minus 6·01 per cent.




## Chapter IV.

### Important Works carried out during the Year.

The important works under execution during the year are enumerated below under the categories Grow More Food works and other works along with the particulars of expenditure and ayacut.

*Works for which Capital and Revenue Accounts are kept.*

**I. Cauvery Delta System**—*A. Grow More Food works*—(1) *Providing irrigation facilities to an extent of* 800 *acres of dry lands in Kambayanatham, etc., villages, Papanasam taluk*—(*Estimate Rs.* 65,000).—Expenditure during the year was Rs. 24,957 and to the end of the year Rs. 42,981. The work was in progress.

(2) *Construction of a bed regulator across the Cauvery at Jeddarpalayam.*—(*Estimate Rs.* 8·092 *lakhs*).—The work was started during the year and an expenditure of Rs. 95 was incurred.

(3) *Providing irrigation facilities to Rajendran and Narasanayakapuram villages*—(*Estimate Rs.* 30,300).—Approximate ayacut 253 acres. Expenditure during the year was Rs. 1,136 and to the end of the year Rs. 23,627. The work was completed.

*B. Other works*—(1) *Construction of a regulator across the Korayar and a drainage sluice to Manamkattankottagam channel*—(*Estimate Rs.* 65,780).—Expenditure during the year was Rs. 4,341 and to the end of the year Rs. 57,775.

(2) *Extensions and improvements to Orathur channel*—(*Estimate Rs.* 15,500).—Expenditure during the year was Rs. 61 and to the end of the year Rs. 14,443. The work was completed.

(3) *Improvements to Mudavanar and providing drainage facilities to lands on the right side of Ayyavayyanar under the scheme estimate for drainage improvements to Cauvery delta*—(*Estimate Rs.* 18,31,100).—Expenditure during the year was Rs. 23,007 and to the end of the year Rs. 78,610. The work was in progress.

(4) *Improvements to Marakkakorayar and Kilathangiar in scheme estimate to drainage improvements to Cauvery delta*—(*Estimate Rs.* 1,93,500).—Expenditure during the year and to the end of the year was Rs. 48,049.

(5) *Improvements to Valakkarai drainage sluice in Negapatam*—(*Estimate Rs.* 17,000).—The work was started during the year and an expenditure of Rs. 44 was incurred.

II. **Cauvery-Mettur Project**—*A. Grow More Food works*—(4) *Bringing under irrigation a further extent of* 15,000 *acres in the Cauvery-Mettur Project area—Second target*—(*Estimate Rs.* 50,000).—A total expenditure of Rs. 50,785 was incurred.

(6) *Extension of irrigation south of Narasinga Cauvery in Arantangi taluk*—(*Estimate Rs.* 19,30,000).—Approximate ayacut 15,000 acres. Expenditure during the year was Rs. 4,20,321 and to the end of the year Rs. 4,88,594.

III. **Godavari Delta System**—*A. Grow More Food works*—(6) *Extension of irrigation under Nimmakayala-Kothapalli channel*—(*Estimate Rs.* 51,200).—Approximate ayacut 643 acres. The expenditure during the year was Rs. 12,541 and to the end of the year Rs. 25,687. The work was in progress.

(7) *Providing irrigation facilities to certain high level lands between Ralli and Lolla locks in Komarajulanka, etc., villages*—(*Estimate Rs.* 2,94,400).—Approximate ayacut 1,660 acres. The expenditure during the year was Rs. 17,207 and to the end of the year Rs. 1,34,433. The work was completed.

(8) *Providing irrigation facilities to the dry lands in Antervedi village by extending Addapalem and Mamidithotta channels*—(*Estimate Rs.* 1,93,000).—Approximate ayacut 2,076 acres. The expenditure during the year was Rs. 66,643 and to the end of the year Rs. 91,746. The work was in progress.

(9) *Extension of Sakhinetipalli weir channel and extension of Vasishta left flood bank*—(*Estimate Rs.* 94,800).—Approximate ayacut 671 acres. Expenditure during the year was Rs. 3,565 and to the end of the year Rs. 52,498. The work was completed.

(10) *Providing irrigation facilities to dry lands in Palivela, Avidi and Ganti villages*—(*Estimate Rs.* 31,800).—Approximate ayacut 426 acres. The expenditure during the year was Rs. 5,117 and to the end of the year Rs. 26,340. The work was completed.

(11) *Kalipatnam Scheme—Extension of irrigation to* 1,190 *acres*—(*Estimate Rs.* 57,400).—Expenditure during the year was Rs. 462 and to the end of the year Rs. 32,137. The work was completed.

(12) *Remodelling the Kodamanchili channel of Bank canal*—(*Estimate Rs.* 82,900).—Approximate ayacut 610 acres. Expenditure during the year was Rs. 1,293 and to the end of the year Rs. 26,230. The work was in progress.

(13) *Providing irrigation facilities to certain dry lands in Yeditha village under Yeditha channel*—(*Estimate Rs.* 25,200).—Approximate ayacut 382 acres. The expenditure during the year was Rs. 6,041 and to the end of the year Rs. 11,596. The work was in progress.

(14) *Providing irrigation facilities to the dry lands of Wadapalem and Kandrika villages*—(*Estimate Rs.* 37,000).—Approximate ayacut 383 acres. The expenditure during the year was Rs. 2,082 and to the end of the year Rs. 12,019. The work was completed.

(15) *Extension of Vadlur-Tetali channel*—(*Estimate Rs.* 1,21,550).—Approximate ayacut 649 acres. The expenditure during the year was Rs. 22,610 and to the end of the year Rs. 41,656. The work was completed and brought to beneficial use during the first crop season of 1946.

(16) *Peravaram Pumping Scheme*—(*Estimate Rs.* 9,74,800).—Approximate ayacut 9,600 acres. Expenditure during the year was Rs. 11,964 and to the end of the year Rs. 5,83,884. The work was completed.

(17) *Sankaraguptam Scheme*—(*Estimate Rs.* 1,00,300).—Approximate ayacut 663 acres. The expenditure during the year was Rs. 15,436 and to the end of the year Rs. 15,529. The work was in progress.

(18) *Extension of irrigation under Sesharayadu Codu channel*—(*Estimate Rs.* 10,900).—The expenditure during the year was Rs. 2,301 and to the end of the year Rs. 6,632.—The work was completed.

(19) *Providing irrigation facilities to waste lands in tail end of Benda No. 2 channel*—(*Estimate Rs.* 86,000).—Expenditure during the year and to the end of the year was Rs. 15 302. The work was in progress.

(20) *Extension of Hospital channel at M.* 26/5-260 *of left bank of Gannavaram canal*—(*Estimate Rs.* 90,450).—The work was started during the year and an expenditure of Rs. 95 was incurred.

(21) *Constructing a lock at Podalada at M* 31/4-7 *of Gannavaram canal*—(*Estimate Rs.* 1,37,500).—The work was started during the year and an expenditure of Rs. 93 was incurred.

*B. Other works*—(6) *Remodelling Pallamkurru Nos. I and II channels*—(*Estimate Rs.* 1,28,834).—The expenditure during the year was Rs. 13,807 and to the end of the year Rs. 98,669. The work was completed.

(7) *Protecting the front and rear aprons of the Gannavaram aqueduct with R.C. sheet piles*—(*Estimate Rs.* 7,67,000).—Expenditure during the year was Rs. 2,58,650 and to the end of the year Rs. 6,86,311. The work was completed in June 1946.

(8) *Remodelling and providing R.C. bridge over the remaining* 45 *vents of the Gannavaram aqueduct*—(*Estimate Rs.* 26,60,000).—The expenditure during the year and to the end of the year was Rs. 3,50,900. The work was in progress.

(9) *Remodelling the collapsed vents of the Gannavaram aqueduct*—(*Estimate Rs.* 6,00,000).—The expenditure during the year was Rs. (—) 40,784 and to the end of the year Rs. 3,96,575. The work was completed.

(10) *Excavating the Kumarigunta distributary*—(*Estimate Rs.* 34,300).—The expenditure during the year was Rs. 2,259 and to the end of the year Rs. 27,219. The work was in progress.

(11) *Special repairs to Dowlaishwaram anicut*—(*Estimate Rs.* 37,000).—The expenditure during the year was Rs. 14,172 and to the end of the year Rs. 36,313. The work was in progress.

(12) *Forming flood bank and providing revetment between the heads of Lukulam and Polaki channels*—(*Estimate Rs.* 53,000).—Expenditure during the year was Rs. 5,841 and to the end of the year Rs. 46,593. The work was in progress.

(13) *Raising and strengthening the old flood bank at Peravaram*—(*Estimate Rs.* 26,770).—Expenditure during the year was Rs. 323 and to the end of the year Rs. 26,225. The work was in progress.

IV. **Kistna Delta System**—*A. Grow More Food works*—(22) *Improvements to Enekepad aqueduct*—(*Estimate Rs.* 24,050).—Ayacut 20,000 acres. The expenditure during the year was Rs. 678 and to the end of the year Rs. 11,804. The work was completed.

(23) *Improvements to Bapatla East swamp drain*—(*Estimate Rs.* 57,500).—Approximate ayacut 400 acres. Expenditure during the year was Rs. 10,575 and to the end of the year Rs. 53,662. The work was in progress.

(24) *Reconstructing the syphon carrying the Karlapalem channel across Nallamada drain*—(*Estimate Rs.* 1,10,000).—Expenditure during the year was Rs. 35,061 and to the end of the year Rs. 40,050. The work was in progress.

(25) *Excavating a channel to Choragudi and Atchampalem villages*—(*Estimate Rs.* 80,000).—Expenditure during the year was Rs. (—) 104 and to the end of the year Rs. 8,296. The work was in progress.

(26) *Providing irrigation facilities to Rudravaram and Chigurukota villages*—(*Estimate Rs.* 40,400).—Expenditure during the year and to the end of the year was Rs. 2,732. The work was in progress.

(27) *Providing irrigation facilities to Dandalur and other villages in Ellore taluk*—(*Estimate Rs.* 3,94,000).—Expenditure during the year and to the end of the year was Rs. 50,034. The work was in progress.

*B. Other works*—(14) *Improvements to New Thamarakollu channel*—(*Estimate Rs.* 29,850).—Expenditure during the year was nil and to the end of the year Rs. 22,667. The whole work was completed with the exception of fixing pipes in masonry.

(15) *Providing irrigation facilities to Bandar Fort block*—(*Estimate Rs.* 24,820).—Expenditure during the year was Rs. 106 and to the end of the year Rs. 16,142. The work was in progress.

(16) *Excavating the new Arathamur channel*—(*Estimate Rs.* 19,600).—Expenditure during the year was Rs. 790 and to the end of the year Rs. 18,266. The work was in progress.

(17) *Excavating the new Nidamanur channel*—(*Revised Estimate Rs.* 24,870).—Expenditure during the year was Rs. 1,266 and to the end of the year Rs. 22,642. The work was in progress.

(18) *Extending the existing irrigation sources for the irrigation of non-guaranteed lands in Mallavole, Rudravaram, etc. villages*—(*Estimate Rs.* 21,100).—Expenditure during the year was Rs. 1,505 and to the end of the year Rs. 15,003. The work was in progress.

(19) *Providing irrigation facilities to Gurzada block*—(*Estimate Rs.* 22,600).—Expenditure during the year was Rs. 1,946 and to the end of the year Rs. 21,957.

(20) *Remodelling the Bhimanadhi channel*—(*Estimate Rs.* 39,500).—Expenditure during the year was Rs. 552 and to the end of the year Rs. 8,145. The work was in progress.

(21) *Excavation of the Kistna western high level channel*—(*Estimate Rs.* 6,07,043).—Expenditure during the year was Rs. 31,710 and to the end of the year Rs. 6,06,322. The work was in progress.

(22) *Improvements to Pedalanka channel*—(*Estimate Rs.* 4,28,690).—Expenditure during the year was Rs. (—) 28 and to the end of the year Rs. 2,911. The work was practically completed except for two bridges, one at Kalidindi and the other at Korakollu.

(23) *Extending the wharf at Bezwada below girder bridge of the Kistna eastern delta main canal*—(*Estimate Rs.* 1,13,200).—The expenditure during the year was Rs. 4,997 and to the end of the year Rs. 93,359. The work was in progress.

(24) *Constructing wharf lascars' quarters and wharf office at Gudivada*—(*Estimate Rs.* 14,730).—Expenditure during the year and to the end of the year was Rs. 6,003. The work was in progress.

(25) *Constructing an under-tunnel at M.* 52/5 *of Bantumilli canal near Garisapudi*—(*Estimate Rs.* 68,200).—Expenditure during the year was Rs. 18 and to the end of the year Rs. 32,692. The work was in progress.

(26) *Improvements to Pedalanka drain from head to the under-tunnel at Garisapudi*—(*Estimate Rs.* 15,40,000).—Expenditure during the year was Rs. 65,251 and to the end of the year Rs. 65,700. The work was in progress.

(27) *Providing irrigation facilities to Kanakavalli block*—(*Revised estimate Rs.* 20,172).—Expenditure during the year was Rs. 490 and to the end of the year Rs. 18,782. The work was in progress.

(28) *Providing irrigation facilities to Chilakalapudi and Kara Agraharam lands*—(*Revised estimate Rs.* 25,920).—An expenditure of Rs. 3,329 was incurred to the end of the year. The work was in progress.

(29) *Providing irrigation facilities to assessed waste lands—Kalindi Colonization Scheme*—(*Estimate Rs.* 6,500).—Expenditure during the year and to the end of the year was Rs. 4,002. The work was in progress.

V. **Kistna East Bank Canal Extension Scheme**—(30) *Kistna East Bank Canal Extension Scheme*—(*Estimate Rs.* 28,49,320).—Expenditure during the year was Rs. 2,072 and to the end of the year Rs. 27,92,656. The work was in progress.

VI. **Mopad Reservoir**—*A. Grow More Food works*—(28) *Constructing an anicut across the Pillaperu and excavating a channel to improve supply to Mopad main channel*—(*Estimate Rs.* 1,45,000).—Expenditure during the year was Rs. 520 and to the end of the year Rs. 1,26,641. The work was nearing completion. As a result of the scheme 700 acres under system tanks were raised with Molagolukulu.

VII. **Udathorahalla Project**—(29) *Construction of an anicut across the Udathorahalla river—Kollegal taluk*—(*Estimate Rs.* 2,11,100).—Approximate ultimate ayacut 800 acres. The expenditure during the year was Rs. 3,163 and up to the end of the year Rs. 1,14,365. The work was completed. An ayacut of about 300 acres has been secured so far. The remaining extent was expected to be brought under paddy cultivation early.

VIII. **Navigation works**—*Buckingham Canal System*—(1) *Provision of a wharf between Trevelyan Basin and Basin Bridge*—(*Estimate Rs.* 2,25,000).—The total expenditure incurred on this work was Rs. 2,15,358. The work was completed.

(2) *Improvements to the Madras wharf at Basin Bridge*—(*Estimate Rs.* 2,45,582).—Expenditure during the year was Rs. 13,379 and to the end of the year Rs. 2,21,184.

(3) *Revetting the banks of the junction canal—North Buckingham canal*—(*Estimate Rs.* 1,34,000).—The total expenditure incurred on this work was Rs. 1,33,011. The work was completed.

(4) *Deepening the North Buckingham canal to* 16·50 *level*—(*Estimate* Rs. 2,80,000).—The total expenditure incurred on this work was Rs. 3,16,871. The work was completed.

*Works for which capital and revenue accounts are not kept.*

*B. Other works—Vizagapatam district*—(1) *Construction of wells in Araku Valley*—(*Estimate Rs.* 21,000).—Expenditure during the year was Rs. 2,266 and to the end of the year Rs. 16,339. The work was in progress.

(2) *Excavation of a diversion channel in Medapalli Agraharam village*—(*Revised estimate* Rs. 27,000).—The expenditure during the year and to the end of the year was Rs. 1,905. The work was in progress.

(3) *Improvements to No. 2 Pedda tank of Chamma Chinta*—(*Revised estimate Rs.* 14,700).—The expenditure during the year was Rs. 3,001 and to the end of the year Rs. 15,076. The work was in progress.

*A. Grow More Food works—Anantapur district*—(1) *Restoration of the Gazulapalli tank*—(*Estimate Rs.* 1,37,830).—Approximate ayacut 130 acres. Expenditure during the year was Rs. 1,361 and to the end of the year Rs. 1,33,312. The work was completed except provision of ball-bearing arrangement to the screw rods which was proposed to be carried out under a separate estimate.

(2) *Restoration of a ruined tank in Titakal village*—(*Estimate Rs.* 32,600).—Approximate ayacut 80 acres. The expenditure during the year was Rs. 155 and to the end of the year Rs. 33,009.

*Bellary district*—(3) *Restoration of the breaches in Mallapanakeri tank*—(*Estimate Rs.* 41,000).—Approximate ayacut 200 acres. Expenditure during the year was Rs. 4,046 and to the end of the year Rs. 24,536. Work was completed. Adjustment of land charges alone remained to be done.

*Kurnool district*—(4) *Chinnatekur Project*—(*Estimate Rs.* 6,20,000).—Approximate ayacut 500 acres. Expenditure during the year was Rs. 16,992 and to the end of the year Rs. 6,48,679. The work was completed except raising of the weir to the ultimate level which was proposed to be carried out under a separate estimate.

(5) *Gargeyapuram Reservoir Project*—(*Estimate Rs.* 1,65,740).—Approximate ayacut 200 acres. The expenditure during the year was Rs. 2,061 and to the end of the year Rs. 1,67,992. All items of work except raising of the surplus weir by about 1 foot and certain sundry items were completed.

(6) *Paleru Reservoir Project*—(*Estimate* Rs. 4,31,000).—Approximate ayacut 360 acres. Expenditure during the year was Rs. (—) 10,252 and to the end of the year Rs. 4,77,425. The work was completed except raising of the weir to F.T.L. plus 80 feet which was proposed to be carried out under a separate estimate.

*Cuddapah district*—(7) *Vogur-Vakkamada Project*—(*Estimate Rs.* 2,57,400).—Approximate ayacut 1,173 acres. The expenditure during the year was Rs. 28,476 and to the end of the year Rs. 2,50,452. The work was completed.

(8) *Excavating a spring channel to irrigate lands in Vibravaram, etc., villages—(Estimate Rs.* 19,000).—The total expenditure on the work up to the end of the year was Rs. 13,486. The work was completed excepting a few sundry items.

*Nellore district*—(9) *Restoration of the Guruvappa cheruvu and excavating a supply channel from Nallavagu—(Estimate* Rs. 49,400).—Ayacut 150 acres. Expenditure to the end of the year was Rs. 10,018. The work was in progress.

(10) *Improvements to Bhimavaram tank—(Estimate Rs.* 97,000).—Ayacut 311 acres. Expenditure to the end of the year was Rs. 15,989. The work was in progress.

(11) *Constructing a bed regulator across Pambaleru—(Estimate Rs.* 70,000).—Approximate ayacut 650 acres. Expenditure during the year was Rs. 472 and to the end of the year Rs. 64,550. The work was completed.

(12) *Formation of a new tank at Mogalicherla village—(Estimate Rs.* 1,58,400).—Approximate ayacut 280 acres. Expenditure during the year was Rs. 852 and to the end of the year Rs. 1,07,306. The work was completed except the two items of raising of the F.T.L. of the tank by 2 feet and construction of a weir.

*B. Other works*—(4) *Constructing a dam across the Venkatagiri river below Chennur tank supply channel—(Estimate Rs.* 23,625).—Expenditure during the year was Rs. 275 and to the end of the year Rs. 17,405. The work was completed.

*A. Grow More Food works—Chingleput district*—(13) *Construction of a dam across Ninjal maduvu and excavating a supply channel to the Ponvilaindakalattur tank—(Estimate Rs.* 5,34,750).—Ayacut 1,226 acres. Expenditure during the year was Rs. 32,981 and to the end of the year Rs. 4,03,981. The work was completed.

*B. Other works*—(5) *Constructing a masonry sluice in Poondi regulator bund and providing a pipe line for supplying water to the Poondi Research Station—(Estimate Rs.* 12,200).—Expenditure during the year was Rs. 5,709 and to the end of the year Rs. 14,129. The work was completed.

(6) *Constructing a high co-efficient weir at the right flank of the Cooum tank—(Estimate Rs.* 26,000).—The total expenditure incurred on this work was Rs. 24,005. The work was completed.

*A. Grow More Food works.—Trichinopoly district*—(14) *Restoration of the Ponneri tank in Udayarpalayam taluk—(Revised estimate Rs.* 6,25,000).—Approximate ayacut 1,500 acres. The expenditure incurred on this work during the year was Rs. 12,590 and to the end of the year Rs. 4,37,468. Certain items of work such as providing irrigation facilities, repairs to apron, etc., still remained to be done.

(15) *Formation of a tank across the Uppar odai in Omandur village, Lalgudi taluk—(Revised estimate Rs.* 2,91,970).—Approximate ayacut 377 acres. The expenditure incurred on the work during the year was Rs. 7,873 and to the end of the year Rs. 2,60,940. Work was completed and about 120 acres were brought under irrigation.

*Coimbatore district*—(16) *Restoration of the Nilambur tank—(Estimate Rs.* 2,37,600).—Approximate ayacut 400 acres. Expenditure during the year was Rs. 11,667 and up to the end of the year Rs. 1,82,708. The work was completed. About 2 7 acres were brought under wet cultivation. The remaining extent was expected to be brought under wet cultivation early.

*B. Other works*—(7) *Constructing a head sluice at M.* 0/2 *at Kolinjivadi channel—(Estimate Rs.* 15,500).—Expenditure incurred during the year was Rs. 10,877 and to the end of the year Rs. 10,9 1.

*Navigation works—Chingleput district*—(1) *Constructing a regulator across the Cooum river at the head near Kesavaram anicut—(Estimate Rs.* 2,97,000).—The expenditure during the year was Rs. 780 and to the end of the year Rs. 2,43,716. The work was completed.

(2) *Improvements to west flood bank of North Buckingham canal between M. 5/3 to 10/2—(Estimate Rs. 2,33,000).*—The expenditure during the year was Rs. 18,426 and to the end of the year Rs. 2,18,906. The work was in progress.

(3) *Forming a flood bank at M. 5/3 of west bank of North Buckingham canal to Kudiraikothalam natam—(Estimate Rs. 1,07,000).*—Expenditure during the year was Rs. 590 and to the end of the year Rs. 81,073. The work was completed.

*Malabar district*—(4) *Improvements to Pooraparamba cut—(Revised Estimate* Rs. 3,67,500).—The expenditure during the year was Rs. 56,675 and tothe end of the year Rs. 3,10,096. The work was completed.

## Chapter V.

### A. Season, Rainfall and Supply.

*Character of the season.*—The province has two monsoons, the south-west and the north-east.

The south-west monsoon set in as usual in the West Coast by the first week of June 1946. The rainfall was below normal in June in all the districts except in Kistna, Guntur, Kurnool, Nellore and Chingleput. The deficiency was made up in the Vizagapatam, East Godavari and South Arcot districts in July and in Bellary and Anantapur districts in August. The total rainfall was on the whole above normal in Anantapur, Cuddapah, Chingleput, South Aroct, Chittoor, North Arcot, Salem, Coimbatore, Madura and Ramnad districts and less than normal in other districts.

The north-east monsoon commenced in the first week of October 1946. Rainfall was deficient in almost all the districts except Chittor, Salem, Madura and Tinnevelly districts during October. In November there were good rains in all the districts except Vizagapatam. December had almost no rainfall in the Northern Circars. The monsoon was on the whole above normal in almost all the districts except Vizagapatam and East Godavari.

*Godavari Delta System.*—Water-supply during the first crop season was generally adequate, though the rainfall at the time of transplantation was poor. The crop was fairly good since there were no flood damages in the delta areas. The supply during the second crop season was also generally satisfactory in the beginning but was somewhat inadequate later. Proportionate regulation was resorted to when the water level fell to the crest of the anicut. The closure of canals was postponed for suitable periods in the three deltas so as to give a final wetting to the tail-end portions, etc., and this had results, in good yieid.

*Chicacole Minor Rivers System.*—Water regulation was carried out as usual by turn system without any difficulty. The total ayacut under this system is 68,000 acres. As there were no freshes in the rivers Langulya and Vamsadhara till July 1946 extensive koramboo works had to be undertaken and supply provided for the standing crops. The crops gave a satisfactory yield.

*Nagavalli River System.*—The main channel was opened for the first crop on 16th June 1946 and though rainfall was poor when compared to previous years it was supplemented by the supplies from the project tanks, for the transplantation. The yield was satisfactory. There was no second crop under this system.

*Kistna Delta System.*—Freshes in the river Kistna arrived in the last week of May 1946 and the maximum flood level during the year recorded was 15·5 feet on 13–14th August 1946. Transplantation was started only from the latter half of June 1946 as the ryots were unable to procure the seedlings in time and utilize the water available in the river from the date of re-opening of the canals. In the first half of the transplantation period, there were no appreciable rains to augment river supply. All possible efforts were made to send down maximum supplies with the result that transplantation was completed by the end of

August. Owing to heavy rains in November there were complaints of submersions under various channels, for which immediate relief measures were taken. The damage to crop was very little.

*Kistna East Bank Canal Extension Scheme.*—The Kistna east bank canal was opened on 25th May 1946 and the water touched Avanigadda Regulator on 28th May 1946. Transplantation was begun in the second week of June 1946 and completed by 20th August 1946. Timely freshes in the river augmented the supply. But the progress of transplantation was affected by the scarcity of water later but the situation was saved by the rains of July 1946. Supply thereafter was sufficient throughout the irrigation season. There was no damage to crops and the yield was generally good.

*Ceded Districts.*—In Cuddapah and Chittoor districts, the seasonal conditions were favourable till November 1946 when unprecedented rains set in and caused damage to crops and irrigation works.

Except the heavy rains in the months of November and December 1946, the rainfall was poor throughout the year in Kurnool and Bellary districts. The river Tungabhadra, however, maintained a steady supply in the canal and shortage of supply was not felt. The crops were fair.

In Bellary and Anantapur districts there was good and widespread rainfall and the season fairly good. The crops in both the districts were good.

*Pennar River Canals System.*—The average rainfall in the Sangam delta was 84·64 inches against 25·63 inches in the previous year. The maximum water level of Nellore tank was 15·60 feet on 6th December 1946 against 13·8 feet of the previous year. The maximum water levels in the Survepalli reservoir and Kanigiri reservoir were 11 feet and 21·45 feet, respectively, against the F.R.Ls. 10 feet and 21·45 feet, respectively.

The season was at its best with the arrival of timely freshes in the river which aided transplantation in time supplemented by rains. The abnormal rains in the months of November and December 1946 submerged the maturing crops too long resulting in loss of harvest and in an average yield of 50 per cent of the normal in the delta. The vast storage in the Kanigiri reservoir and Nellore tank had enabled the raising of the second crop to a large extent; the crops thrived well.

*Cauvery Delta System and Cauvery Mettur Project.*—There were heavy rains in the months of November and December 1946. The north-east monsoon commenced late. The reservoir was opened for irrigation on 28th June 1946 when the lake level was 52·70 and was closed for irrigation on 12th February 1947 when the level was 109·65. The 1946 season was unique in that it commenced with the lowest recorded level of the reservoir and closed at the highest level ever recorded since the construction of the dam. Surplus water over and above irrigation demand had to be allowed for 111 days for flood disposal. The floods were entirely under control. The season on the whole was good from the irrigation point of view.

The rainfall in Coimbatore, Salem and North Arcot districts was more than that recorded in the previous year. In West Coast rainfall was heavy as usual.

*Willingdon Reservoir and the Toludur Project.*—The reservoir level was low in the beginning of the season and began to rise from 21st May 1946. The full level was reached on 8th November 1946 and the reservoir surplussed in November and early in December 1946. The high level of the water in the reservoir enabled some additional area being thrown open for a summer crop.

*Periyar System.*—The irrigation season of 1946–47 started with a lake level of 120·80 on 20th June 1946. The reservoir level rose to 141·20 on 29th August 1946 and then went down to 131·55 on 19th October 1946. Then as the north-east monsoon set in, the lake reached the F.R.L. of 152·00 on 8th December 1946.

The average rainfall in the catchment of the Periyar lake during the year was 91·82 inches against 71·07 inches in the previous year. In the Periyar delta proper it was 44·32 inches against 26·28 inches in the previous year. Though the rainfall over the lake catchment was slightly higher than the average of previous years the south-west monsoon was not favourable. The rainfall in the Periyar delta was moderate in the several months but heavy in November and December 1946.

Owing to the failure of both the monsoons in 1945–46 the kalam crop was transplanted late, necessitating issues from the lake until the 11th April 1946, i.e., one month and eleven days beyond the normal closing date of 1st March. These late issues depleted the storage and consequently the usual date of opening, 1st June 1946 had to be postponed to 20th June 1946. When the lake level began to fall during the period from 29th August 1946 to 19th October 1946 (period of maximum demand) the situation was met with by restricting the draw from the lake and by distributing the available supply by a system of turns as was done in the previous years. Though the south-west monsoon was not good, the north-east monsoon was unusually good and the entire area under the Periyar System was brought under cultivation successfully.

The season in the Tinnevelly district was below normal and supply had to be supplemented from *Hope Reservoir*, Papanasam, to save the crops.

## B. Closure of Canals.

The following table shows the dates of closure and reopening of canals in the Godavari and Kistna Deltas:—

*Godavari delta.*

| Name of canals. | Date of closure. | Date of reopening. |
|---|---|---|
| Eastern delta canals— | | |
| (*a*) Main and Samalkot Canals .. | 1st May 1946, 6 a.m. .. | 8th May 1946, 6 p.m. |
| (*b*) Cocanada and Bank Canals .. | Do. .. | 1st June 1946, 6 p.m. |
| Western delta canals— | | |
| Main canal, etc. .. .. .. | 3rd May 1946, 5 p.m. .. | 1st June 1946, 6 p.m. |
| Central delta canals— | | |
| All canals .. .. .. .. | 15th April 1946, 6 a.m. .. | 15th May 1946, 6 a.m. |

*Kistna delta.*

| | | |
|---|---|---|
| Kistna eastern delta— | | |
| Main canal .. .. .. .. | 1st May 1946 .. .. | 25th May 1946. |
| Ryves canal .. .. .. | 1st April 1946 .. .. | Do. |
| Bandar canal .. .. .. | Do. .. .. | Do. |
| Ellore canal .. .. .. | 1st May 1946 .. .. | 1st June 1946. |
| East bank canal .. .. .. | 1st March 1946 .. .. | 25th May 1946. |
| Kistna western delta— | | |
| Main canal .. .. .. .. | 6th April 1946 .. .. | 1st June 1946. |
| Commamur canal .. .. .. | 7th April 1946 .. | 2nd June 1946. |
| Nizampatam canal .. .. | Do. .. .. | 4th June 1946. |
| Bank canal .. .. .. .. | 7th March 1946 .. .. | 2nd June 1946. |

## C. Industrial Crops.

The total area cultivated with sugarcane in the Province during the year was 90,857 acres against 64,437 acres in the previous year. The area under indigo cultivation was 1,005 acres under the Pennar River Canals System against 5,860 acres in the previous year.

## Chapter VI.

### Classification of Works.

Irrigation works in the Province are classified as (*a*) Works for which Capital and Revenue Accounts are kept, and (*b*) Works for which Capital and Revenue Accounts are not kept. Each class is divided into (i) Irrigation Works, and (ii) Navigation, Embankment and Drainage Works. Works under (*a*) are again subdivided into "Productive" and "Unproductive" the classification being based on the financial results of three consecutive years.

"Productive and Unproductive Works" under "Irrigation" numbered 25 and 34, respectively, during the year—vide names of works given in the Statement B-I of Appendix I.

Under "Navigation, etc., works" there are no works at present under "Productive" while there are only two works under "Unproductive"—vide names of the works in the Statement B-I of Appendix I.

The number of works for which Capital and Revenue Accounts are not kept was as shown below :—

| | Channels. | Tanks. | Other works. | Total. |
|---|---|---|---|---|
| In charge of the Public Works Department .. | 486 | 2,530 | 118 | 3,134 |
| In charge of the Revenue Department .. .. | 5,539 | 24,357 | 1,813 | 31,709 |
| Total .. | 6,025 | 26,887 | 1,931 | 34,843 |

### Financial Results.

The following paragraphs deal with the outlay, revenue and working expenses, and the area cropped, the area irrigated and remissions during the year for the Province as a whole and under each class of works mentioned above.

The Provincial results are tabulated below :—

| | 1946-47. | 1945-46. |
|---|---|---|
| | Rs. | Rs. |
| Capital outlay (direct and indirect) .. .. .. | 2,50,13,069 | 1,78,02,507 |
| Gross revenue .. .. .. .. .. .. | 3,90,52,113 | 3,56,24,807 |
| Working expenses .. .. .. .. .. .. | 1,05,87,981 | 92,38,264 |
| Net revenue due to improvements .. .. .. | 1,49,49,765 | 1,70,74,768 |
| | Acs. | Acs. |
| Total area cropped .. .. .. .. .. .. | 36,412,968 | 35,274,416 |
| Total area irrigated .. .. .. .. .. | 8,692,215 | 8,239,019 |
| | Rs. | Rs. |
| Remissions .. .. .. .. .. .. .. | 13,58,635 | 48,21,585 |

The results of each class of works were as follows :—

I. *Irrigation works*—(i) *Productive works.*—(1) The capital outlay (direct and indirect) during the year was Rs. 12,18,956 as against Rs. 7,40,864 in the previous year. The bulk of the outlay was incurred on the Godavari and the Kistna Delta Systems. Details of works carried out are given in Chapter IV.

(2) The gross working expenses of the year were Rs. 89,16,637 against Rs. 78,09,635 in the previous year.

(3) The gross revenue of the year was Rs. 2,54,63,575 against Rs. 2,29,34,910, in the previous year. The bulk of the revenue was derived as usual from the Cauvery, the Godavari and the Kistna Delta Systems and the Cauvery-Mettur Project.

(4) The net revenue derived and the net profits after deducting interest charges amounted to Rs. 1,24,29,981 and Rs. 57,14,403 against Rs. 1,07,84,398 and Rs. 41,20,935, respectively, in the previous year. The net profit works out to 7·92 per cent on the capital outlay of Rs. 15,68,47,915 against 12·74 per cent 25 years ago.

(5) The total area charged as irrigated was 3,906,561 acres first crop and 780,554 acres second crop against 3,808,191 acres and 726,522 acres, respectively, in the previous year. The aggregate area irrigated is more than the acreage of the previous year by 152,402 acres.

(6) The estimated value of irrigated crops raised during the year amounted to Rs. 62,89,66,630 against Rs. 44,16,51,355 in the previous year.

(7) The average revenue per acre amounted to Rs. 5·43 on the gross area and Rs. 8·13 on the new irrigation. The working expenses per acre were Rs. 1·90 on the gross area and Rs. 2·85 on the new irrigation.

(8) The remission granted during the year amounted to Rs. 7,21,038 against Rs. 30,83,631 in the previous year.

(9) The total length of main canals and branch channels at the end of the year was 3,543$\frac{3}{4}$ miles. Of this length 911$\frac{3}{8}$ miles were for irrigation and navigation combined under the Godavari and Kistna Delta Systems and the remainder were for irrigation only. The length of the distributaries was 9,606$\frac{2}{2}\frac{3}{4}$ miles.

(ii) *Unproductive works.*—(1) The capital outlay (direct and indirect) during the year was Rs. 54,43,801 against Rs. 12,70,517 in the previous year. The oultay was incurred chiefly on the Tungabhadra Project on which the expenditure was Rs. 51·64 lakhs.

(2) The gross working expenses amount to Rs. 9,34,922 against Rs. 9,16,216 in the previous year.

(3) The gross revenue amounted to Rs. 15,50,911 against Rs. 16,05,419 in the previous year.

(4) The net revenue due to improvements was Rs. 3,77,286 against Rs. 3,58,363 in the previous year. This represents a return of 0·78 per cent on the capital outlay of Rs. 4,85,34,554 to end of the year.

The net revenue fell short of the interest charges by Rs. 16,10,674 of which Rs. 8,93,730 pertain to the Kurnool-Cuddapah Canal and Rs. 2,18,620 to the Palar Anicut System representing the bulk of the deficit. The percentage of the deficit in these cases was 3·82 and 8·78, respectively, on the capital outlay.

(5) The area charged as irrigated was 285,502 acres first crop and 71,290 acres second crop against 357,871 acres and 51,644 acres, respectively, in the previous year.

(6) The estimated value of crops amounted to Rs. 2,96,44,673 against Rs. 4,04,27,355 in the previous year.

(7) The average revenue per acre amounted to Rs. 4·35 on the gross area and Rs. 6·52 on new irrigation. The working expenses per acre were Rs. 2·62 on the gross area and Rs. 3·93 on the new irrigation.

(8) The remissions granted during the year amounted to Rs. 28,959 against Rs. 1,45,853 in the previous year. The bulk of the remission was granted under the Palar Anicut System.

(9) The total length of the main canals and branch channels at the end of the year was 1,050$\frac{1}{2}$ miles of which 74 miles were for irrigation and navigation combined under the Kurnool-Cuddapah Canal while the remainder were for irrigation only. The length of the distributaries was 818-9/16 miles.

II. *Navigation, Embankment and Drainage works—Unproductive works.*—The gross working expenses on and the gross receipts from the Buckingham and Vedaranyam Canals were Rs. 7,36,422 and Rs. 1,47,193, respectively, against Rs. 5 12,413 and Rs. 1,38,097, respectively, in the previous year.

The loss on the working of the canals was Rs. 5,89,229 compared to the loss of Rs. 3,74,316 in the previous year. Expenditure was as usual large on the Buckingham Canal owing to the need to maintain it in a condition fit for traffic throughout the year.

## WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE NOT KEPT.

### I. *Irrigation works.*

Statement showing by minor heads the outlay under Irrigation works for which Capital and Revenue accounts are not kept for the year 1946–47.

| Minor heads. | Ordinary minor works. | | | | Total. |
|---|---|---|---|---|---|
| | Public Works Department works. | Revenue Department works in charge of the Public Works Department. | Old maintenance charges. | Tank Restoration Scheme works. | |
| | RS. | RS. | RS. | RS. | RS. |
| Works .. .. .. | 1,52,292 | .. | .. | .. | 1,52,292 |
| Extensions and improvements. | 1,13,939 | .. | 1,19,508 | .. | 2,33,447 |
| Maintenance and repairs .. | 13,57,492 | 47,644 | 8,93,866 | 1,244 | 23,00,246 |
| Establishment .. .. | 5,55,226 | 26,560 | 2,70,189 | 106 | 8,52,081 |
| Tools and plant .. .. | 10,664 | 859 | 4,443 | 26 | 15,992 |
| Miscellaneous expenditure. | 21,85,459 | .. | .. | .. | (*a*) 21,85,459 |
| Total .. | 43,75,072 | 75,063 | 12,88,006 | 1,376 | 57,39,519 |
| *Add* outlay incurred by Civil officers on Minor Irrigation works. | .. | .. | .. | .. | (*b*) 17,50,962 |
| | | | | Grand total .. | 74,90,479 |

(*a*) Represents outlay on other charges, establishment and tools and plant.

| | RS. |
|---|---|
| (*b*) Works .. .. .. | 55,646 |
| Maintenance and repairs | 12,99,168 |
| Establishment .. .. | 2,29,672 |
| Other charges .. .. | 1,66,074 |
| Tools and plant .. .. | 402 |
| Total .. | 17,50,962 |

The particulars of revenue derived from the works during the year are compared below with those of the previous year :—

| | 1945–46. | 1946–47. |
|---|---|---|
| | RS. | RS. |
| Receipts collected by the Revenue Department. | 1,06,65,809 | 1,15,86,758 |
| Receipts collected by the Public Works Department. | 1,52,935 | 1,83,330 |
| Total .. | 1,08,18,834 | 1,17,70,088 |

The area irrigated was 2,778,992 acres first crop and 869,316 acres second crop against 2,669,859 acres and 624,932 acres respectively in the previous year.

The following statement compares the results of the year under review with those of the previous year and the average of the previous triennium :—

| | Outlay incurred. | Area irrigated. | Gross revenue. |
|---|---|---|---|
| | RS. | ACS. | RS. |
| During 1946–47 . .. .. .. | 74,90,479 | 3,648,308 | 1,17,70,088 |
| During 1945–46 .. .. .. .. | 64,72,917 | 3,294,791 | 1,08,18,834 |
| Average of the triennium ending 1945–46. | 65,54,644 | 3,425,924 | 1,09,28,023 |

The increase in expenditure during the year is due to the fact that the expenditure on the investigation of the Ramapadasagar project was considerably larger i.e., Rs. 17·77 lakhs.

The net revenue of the year after deducting working expenses amounted to Rs. 44,74,492 against Rs. 52,66,322 in the previous year.

*Tank Restoration Scheme works.*—The area falling within the scope of the Tank Restoration Scheme investigation was 102,500 square miles. Investigations were taken up in the basins comprising an area of 94,660 square miles of which 87,630 square miles had been investigated up to 1931 when the Tank Restoration Scheme

divisions and subdivisions were abolished as a measure of retrenchment. Since April 1931 up to the end of March 1945 an area of 1,329 square miles had been investigated. An area of 2·89 square miles was investigated during 1945-46. No new basin was taken up for investigation during the year. So the area investigated since 1931 up to the end of March 1947 was 1,332 square miles bringing the total area investigated to 88,962 square miles representing 87·76 per cent of the total area of 102,500 square miles while the percentages to the end of 31st March 1931 and 1947 were 85·49 and 86·79 respectively.

In the areas investigated, works have been completed in 86,002 square miles and works are in progress or are yet to be started in the remaining area of 2,960 square miles.

No estimate was sanctioned during the year and the amount of estimates sanctioned to date was Rs. 204·91 lakhs. The expenditure during the year was Rs. 1,376 and to end of the year Rs. 1,72,16,772 exclusive of charges for establishment and tools and plant. The number and amount of estimate sanctioned, the area investigated, etc., are tabulated below :—

*Tank Restoration Scheme works.*

| Circle. | District. | Approximate area investigated. | | Number of estimates sanctioned. | | Amount of estimates sanctioned. | |
|---|---|---|---|---|---|---|---|
| | | During 1946-47. | To the end of 1945-46. | During 1946-47. | To the end of 1945-46. | During 1946-47. | To the end of 1945-46. |
| | | | SQ. MILES. | | | RS. | RS. |
| Dowlaishwaram. | Vizagapatam .. | .. | 1,350 | .. | 503 | .. | 15,92,341 |
| | East Godavari. | .. | 152 | .. | 928 | .. | |
| | West Godavari. | .. | 2,412 | .. | .. | .. | |
| Bezwada .. | Kistna .. | .. | 1,491 | .. | 160 | .. | 2,40,888 |
| | Guntur .. | .. | 4,411 | .. | 257 | .. | 2,04,724 |
| Anantapur .. | Kurnool .. | .. | 7,648 | .. | 340 | .. | 3,33,682 |
| | Cuddapah .. | .. | 4,667 | .. | 1,357 | .. | 12,72,569 |
| | Anantapur .. | .. | 7,834 | .. | 789 | .. | 10,69,692 |
| | Bellary .. | .. | 10,518 | .. | 251 | .. | 3,44,321 |
| | Chittoor .. | .. | 5,132 | .. | 2,101 | .. | 33,26,041 |
| Madras .. .. | Nellore .. | .. | 7,300 | .. | 474 | .. | 6,13,994 |
| | Chingleput .. | .. | 2,227 | .. | 602 | .. | 5,86,118 |
| Coimbatore .. | North Arcot .. | .. | 4,659 | .. | 2,011 | .. | 27,20,767 |
| | Coimbatore .. | .. | 8,907 | .. | 151 | .. | 3,10,986 |
| | Salem .. .. | .. | 6,052 | .. | 1,273 | .. | 11,36,457 |
| Tanjore .. | South Arcot .. | .. | 850 | .. | 724 | .. | 16,33,215 |
| | Tanjore .. | .. | 1,140 | .. | 610 | .. | 7,94,940 |
| Trichinopoly .. | Trichinopoly .. | .. | 4,564 | .. | 601 | .. | 12,37,649 |
| | Madura .. | .. | 4,836 | .. | 1,664 | .. | 14,95,984 |
| | Tinnevelly .. | .. | 1,969 | .. | 969 | .. | 13,42,766 |
| | Ramnad .. | .. | 1,643 | .. | 3 | .. | 2,33,325 |
| | Total .. | .. | 88,962 | .. | 15,748 | .. | 2,04,90,459 |

## II. *Navigation, embankment and drainage works.*

The outlay incurred on the works of this class was Rs. 18,91,336 against Rs. 12,92,575 in the previous year as detailed below :—

| | 1946-47. | 1945-46. |
|---|---|---|
| | RS. | RS. |
| Works .. .. .. .. .. .. | 23,280 | 1,04,512 |
| Extensions and improvements .. .. | 69,750 | 9,445 |
| Maintenance and repairs .. .. .. | 14,66,963 | 9,83,676 |
| Establishment .. .. .. .. .. | 3,03,562 | 1,72,985 |
| Tools and plant .. .. .. .. .. | 25,679 | 19,693 |
| Other charges .. .. .. .. .. | 2,102 | 2,264 |
| Total .. | 18,91,336 | 12,92,575 |

The receipts realized by sale of plantation and produce of trees along river embankments, etc., amounted to Rs. 1,20,346 against Rs. 1,27,547 in the previous year.

The following statement compares the outlay incurred on and the revenue derived from these works with those of the previous year and the average of the previous triennium :—

| | Outlay. | Revenue. |
|---|---|---|
| | RS. | RS. |
| During 1946–47 .. .. .. .. | 18,91,336 | 1,20,346 |
| During 1945–46 .. .. .. .. | 12,92,575 | 1,27,547 |
| Average of the triennium ending 1945–46 .. | 10,10,036 | 1,33,006 |

## Chapter VII.

### Projects under Consideration.

Of the schemes investigated last year, the following were sanctioned for execution: Improvements to Pedalanka Drain and Kandaleru Project in the Kistna Delta, Hospital Channel Extension Scheme and construction of a lock at Podalada in the Godavari Delta and the Jeddarpalayam Scheme in the Cauvery Delta. Plans and estimate for the Atleru Project were submitted last year and sanction was still awaited. The report on the detailed investigation of the Vaigai Reservoir Scheme and the estimate submitted by the Superintending Engineer were held up due to lack of settlement on electric power generation with Travancore. Plans and estimates pertaining to the right bank and left bank canals from Mettur Reservoir were under preparation by the Superintending Engineer. Detailed plans and estimates in respect of the Pullambadi Scheme and the Kattalai High Level Channel Extension Scheme were under preparation by the Superintending Engineer.

The progress of investigation in respect of the schemes mentioned in the last year's report is given below :—

*Vizagapatam, East Godavari, West Godavari and Kistna districts.*

*Ramapadasagar Project.*—The investigation of this project has been going apace. Designs and drawings prepared in Madras were sent to the Bureau of Reclamation at Denver, U.S.A. and were checked and passed by Dr. Savage, Designs Engineer (retired), and now Consulting Engineer, of the Bureau of Reclamation. The designs prepared in Madras were taken to Denver by the Designs Engineer, Madras, accompanied by an Assistant Engineer and six Supervisors. They all contributed to the finalizing of the designs at Denver, checking them and preparing the specifications.

The Board of Consulting Engineers consisting of Dr. Savage, Chairman, Sir Murdoc Macdonald and Mr. S. O. Harper met at London in the first week of August and took major decisions on the design and other important construction aspects of the dam. Dr. Terzaghi who was the fourth member of the Board has accepted the opinion of this Board. This meeting was attended by the Chief Engineer, Special, Madras.

In the low water season from December 1947 to June 1948 will see quite a few tests being made in the bed of the Godavari river. These tests will consist of a sheet pile cell, driving straight sheet piling, sinking a 36" dr. shaft to a depth of 200 feet and more in the river bed, and making pumping tests in it and collecting data therefrom to confirm the test already made in the matter of seepage into the foundations of the dam.

Left canal from the Ramapadasagar dam is being investigated and estimated in detail. The cost of the left canal will be worked on an acreage and a cusec basis and those figures will be applied in estimating the cost of the right canal.

The concrete laboratory with a 300,000 lb. testing machine and other auxiliary apparatus has been installed at Madras next to the P.W. offices. This was opened by the Hon'ble Mr. N. V. Gadgil, Minister for Works, Mines and Power, Government of India, on the 18th December 1947.

The Hon'ble Minister also inspected on 21st December the Hydraulic Research Station at Poondi, 37 miles from Madras, where model studies of the hydraulic problems arising in connection with the Ramapadasagar and Tungabhadra Projects are being made.

*East Godavari district.*—The detailed investigation of the scheme for constructing a lock and regulator across the Coringa River was completed. Plans and estimate costing nearly Rs. 15 lakhs to irrigate about 8,100 acres for the present, submitted by the Superintending Engineer were under scrutiny by the Chief Engineer (Irrigation).

*West Godavari district.*—Plans and estimate costing nearly Rs. 1,43,000 for restoring the Kalyanarayadu tank in Erraguntlapalli to irrigate an approximate ayacut of 600 acres were submitted to Government for sanction.

The scheme for excavating a new channel from the Appa Rao Channel to irrigate about 156 acres of lands in the proprietory villages of Timmarajapalam, Sankarapuram and Nidadavole was proposed to be dropped originally but the Superintending Engineer was asked to examine an alternative.

*Kanur Scheme.*—The scheme was postponed in March 1944 due to the ryots not offering a contribution as originally promised. Later, however, the ryots of Kanur and Pandyala villages expressed their willingness to pay a sum of about 2 lakhs for the scheme. The Government referred the matter to the Board of Revenue. The revival of the scheme was under the consideration of Government.

*Vizagapatam district.*—Plans and estimate for the construction of a dam across the Sarugudugedda in Vedurupalli village designed to irrigate an ayacut of 600 acres were under revision with the Executive Engineer in the light of the Chief Engineer's (Irrigation) remarks.

The proposals for the extension of Mahadevavalasa East Distributary for providing irrigation facilities for an additional ayacut of 71 acres were examined and returned to the Superintending Engineer for attending to certain technical remarks.

Plans and estimate for the construction of Polipalli anicut across Gostani River in Vizianagram Estate, to give irrigation facilities to 1,100 acres were received from the Superintending Engineer and were under scrutiny in the Chief Engineer's (Irrigation) Office.

*Padigam Project.*—Estimate for the field work connected with the preliminary investigation was submitted to Government. Orders of Government were pending with reference to a suit notice and an objection petition from the ryots of Palavalasa, etc., villages of Mandasa Estate.

The estimate relating to the proposal for providing irrigation facilities to the lands in Araku Valley by utilizing the waters of the hill stream " Jilda Vagu " returned to the Executive Engineer were received back. The cheaper alternative scheme (cost Rs. 66,520) was recommended to Government for sanction. Orders of Government were awaited.

*Kistna district.*—The original proposal for irrigating lands in Vaivaka and Korukollu villages through the Nandiraju Codu Channel was turned down and an alternative proposal for the ayacut was under consideration by the Superintending Engineer. Plans and estimate for the same were under preparation with the Executive Engineer.

*Providing irrigation facilities to about 550 acres in the Vaivaka Peddathummidhi block under the Bantumilli canal.*—Plans and estimate for Rs. 60,000 for works have since been submitted to Government.

*Improvements to the Repalli main drain, Battiprodu drain and the Tungabhadra drain.*—Detailed plans and estimate in respect of these schemes were awaited from the Superintending Engineer.

*Providing irrigation facilities to 460 acres situated in Ayodhya, etc., villages of Divi taluk by extending XI/4 Peddakallapalli south branch channel.*—The scheme was expected to cost Rs. 18,000 for works outlay. Detailed estimate and plans were under preparation by the local officers.

*Providing irrigation facilities to about 960 acres in Majeru, Lankapalli, etc., villages of Divi taluk.*—The estimate amounting to Rs. 58,900 received from the Superintending Engineer was under examination by the Chief Engineer (Irrigation).

*Providing irrigation facilities to about 2,700 acres in Pedapatnam and Narayanapuram blocks of Kistna eastern delta by extending Arthamur channel.*—The proposals were under examination with the Superintending Engineer and the Executive Engineer.

*Extension of irrigation under Muniyeru main channel.*—The proposal was for providing irrigation facilities to about 2,800 acres of dry lands in Nandigama taluk of Kistna district. Detailed estimate for Rs. 2,84,000 received from the Superintending Engineer was submitted to Government.

*Guntur district—Constructing an anicut across Nagaleru river (Mellavagu project).*—Proposals were under scrutiny in the Superintending Engineer's office.

*Providing irrigation facilities to 6,420 acres of dry lands in Peddapalli and Allur villages of Repalli and Bapatla taluks (Peddapalli block).*—The proposal was expected to cost Rs. 5,74,000 for works. Detailed estimate and plans were under preparation with the local officers.

*Bhrugubanda tank project.*—The proposal was for providing irrigation facilities to about 520 acres of dry lands in the uplands of Guntur district by constructing an anicut across Yeddu vagu and taking a supply channel and improving the existing Bhrugubanda Tank. The proposal was expected to cost Rs. 1,30,000 for works. Detailed estimate submitted by the Superintending Engineer was under examination in the Chief Engineer's (Irrigation) office. (This has been since submitted to Government on 21st May 1947.)

*Construction of an anicut across Isukavagu near Krosur.*—The proposal was for provision of irrigation facilities to about 200 acres in the uplands of Guntur district and was estimated to cost Rs. 25,000. Detailed estimate was under preparation with the Superintending Engineer.

*Gundalakamma project.*—The proposal was to form a reservoir by damming the river at a gorge in the Tangirala village and to construct an anicut 23 miles lower down to pick up the regulated supplies sent down from the reservoir. Detailed proposals were under revision with the Executive Engineer, Guntur Division.

*Anantapur district—Pennar-Kumudavati project.*—The revised financial forecast of the scheme and other particulars were received from the Collector. The scheme was pending with Government due to correspondence with Mysore Government.

*Perur-Pennar project.*—Detailed investigation was completed and the plans and estimates were under scrutiny in the Circle office.

*Restoring the breached Kotha tank to a lower F.T.L. across Thallapillavanka in Peddanavaripalli.*—The investigation of the scheme was in progress.

*Bhairavanithippa project.*—Investigation of the scheme was started.

*Restoring the Marutla tank and improving the supplies of Lakkavaram tank.*—Detailed investigation of the scheme was proposed.

*Anantapur and Chittoor districts—Papagni Anicut Scheme.*—The scheme was dropped and the preliminary report on the alternative scheme, viz., Chennarayaswami Gudi Reservoir in Kadiri taluk was under scrutiny by the Chief Engineer (Irrigation), during the year and submitted to Government for orders in view of the poor return in September 1947.

*Chittoor district—Kalyani River Scheme.*—Preliminary investigation was in progress.

*Bhimanadhi Reservoir Scheme.*—Investigation of the scheme was in progress.

*Erikalva Anicut Scheme.*—Plans and estimate amounting to Rs. 35,100 submitted by the Superintending Engineer were under scrutiny by the Chief Engineer (Irrigation).

*Potlavanka Scheme.*—Results of gaugings for 1946–47 were called for from the Superintending Engineer.

*Kurnool district—Gandivagu and Rallavagu reservoirs.*—Detailed investigation of the scheme was ordered to be deferred.

*Restoring the Dogirayadu tank across Peddavanka.*—Preliminary report on the scheme was called for from the Superintending Engineer.

*The scheme for reclamation of lagoons along the Kurnool-Cuddapah canal.*—Estimates for the lagoons at 56/0, 59/0 and 60/0 were scrutinized by the Chief Engineer for Irrigation and revised proposals called for.

*Forming a new tank across Kolli Magulavagu.*—Plans and estimate amounting to Rs. 4,10,000 were examined and ordered to be revised by the Superintending Engineer.

*Restoring the Potharaju tank.*—Detailed investigation was in progress.

*Restoring the Gottipadiya tank.*—The scheme has since been sanctioned.

*Restoration of the breached and abandoned tank, Venkatareddi kunta of Eddavalli.*—The scheme has since been dropped.

*Construction of a reservoir across the Tigaleru at Kotulamuthu.*—Detailed plans and estimate submitted by the Superintending Engineer were under scrutiny by the Chief Engineer (Irrigation) during the year, and submitted to Government on 5th September 1947.

*Cuddapah district—Mekalakunta Eru Scheme.*—The results of gaugings for 1944-45 were awaited from the Superintending Engineer.

*Lower Sagileru project.*—Gauge readings were conducted since 1945. Geological survey was completed and the remarks of the Superintending Engineer on it were called for.

*Restoration of the Dharbavari Agraharam tank.*—Plans and estimate submitted by the Superintending Engineer were examined by the Chief Engineer (Irrigation) and returned to the Superintending Engineer for further report.

*Formation of a new tank across Goderu near Thippareddipalli.*—Preliminary investigation of the scheme was in progress.

*Formation of a new tank across Vanneswarm vanka.*—Detailed investigation of the scheme was in progress.

*Gandikota project.*—Further gaugings were being taken to decide the availability of supply. Borings could not be taken due to non-availability of rock core drills. The scheme may require re-examination in connection with the Kistna-Pennar Project.

*Construction of an anicut across Maddileru (Dorigallu project).*—Detailed investigation of the scheme was ordered by the Chief Engineer (Irrigation).

*Excavating channel from the Cheyyar river and supplying water to Ventimatta tank.*—The Superintending Engineer's report on the alternative proposals of the scheme was examined and orders issued on 6th August 1947.

*Bellary district—Restoring the Marathi cheruvu.*—The preliminary estimate and plans submitted by the Superintending Engineer were examined and the remarks of the Collector on the revised financial forecast were awaited.

*Nellore district—Rallapad project.*—Plans and estimate for a combined reservoir and Anicut Scheme costing Rs. 47·72 lakhs were submitted to Government. It was proposed to take up the scheme in two stages, the anicut and left side channel as Stage I under Grow More Food and the rest of the scseme as Stage II as an irrigation project.

*Extension of irrigation under the Chajerla river channel above Sangam anicut.*—Plans and estimate in respect of the scheme were sent up to Government.

*Formation of a tank across the Chowtapallivagu above Bhairavaram village and construction of a reservoir across the Kauveryvagu.*—The preliminary plans and estimate submitted by the Superintending Engineer on 20th May 1947 were examined and submitted to Government on 10th September 1947.

Proposals on the scheme for excavating a supply channel from the Mopad Main Canal below Pillaperu Aqueduct for irrigating 360 acres in Chintaladevi and Veligundla villages to serve as a land colonization scheme for ex-soldiers were submitted to Government and orders awaited.

Report on the detailed investigation of the scheme for extension of irrigation to Yellamanchipad village by excavating a supply channel from Kanigiri Reservoir to irrigate about 370 acres was awaited from the Superintending Engineer.

*Restoration of the old flood banks on either side of the Araniyar river below the Railway bridge at Ponneri.*—Preliminary investigation of the scheme was in progress.

*Construction of anicuts and forming a reservoir across the Araniyar river to improve irrigation facilities in Ponneri.*—Preliminary investigation of the scheme was in progress.

*Excavation of a channel from Boggeru to Bhimavaram tank and raising the F.T.L. of the tank by 2 feet.*—The scheme has been sanctioned.

*Chingleput district.*—Plans and estimate regarding the improvements to Krishnapuram river channel were sent to the Board of Revenue with Chief Engineer's (Irrigation) recommendations.

*Constructing a masonry dam across the Cheyyar to supply the Uttiramerur tank.*—The scheme has been sanctioned.

*South Arcot district.*—A scheme for a deep bore well for irrigation of an area of 100 acres in Kondur village was estimated for Rs. 27,000. Government sanction was awaited.

The flow in Pennar was gauged at Cuddalore bridge during the year in connexion with a proposal for a reservoir in Sathanur limits in Thiruvannamalai taluk.

*Thambipettai Odai Scheme.*—Detailed investigation was in progress.

*Tanjore district.*—Providing irrigation facilities to the lands in Sundarkortar and Edayarnatam villages of Mannargudi taluk from Vadavar No. 1 channel and the scheme of providing irrigation facilities to the block of land from Vattacheri channel were investigated and approximate estimate forwarded to the Collector for approval.

*Extension of irrigation facilities to about 4,000 acres below the tail dam of the Mulliar by constructing a regulator.*—Detailed investigation of the scheme was in progress.

*Madura district.*—Plans and estimate for the construction of a tank in Boothipuram village, Dindigul taluk, to irrigate about 160 acres were examined by the Chief Engineer (Irrigation) and were returned to the Superintending Engineer for revision and resubmission bringing down the cost.

*Tinnevelly district.*—The detailed plans and estimate for Rs. 2·15 lakhs for the first stage of restoring the Sivalaperi tank to its original F.T.L. so as to bring about 550 acres under irrigation were under scrutiny in the Superintending Engineer's office (since sent to Government).

*Investigation of the Tambraparni channels.*—(Remodelling on scientific lines) was completed and further instruction issued.

*Construction of a reservoir across Manimuthar.*—Preliminary report with plans and estimate (Rs. 84 lakhs—"Works") for a reservoir of 2,000 m.c.ft. storage intended to ensure supply to existing Tambraparni irrigation were scrutinized and detailed investigation of the scheme recommended.

A preliminary report with approximate estimates for the restoration of the Vayali and Malayadipatti tanks at a cost of Rs. 82,000 and Rs. 56,000 respectively were submitted by the Superintending Engineer. Sanction of special staff has since been applied for detailed investigation.

*Construction of an anicut across Vaippar.*—Gauging operations were conducted for three years from 1943–44 to 1946–47. Chief Engineer (Irrigation) had called from the Superintending Engineer for necessary plans and estimates for the supply channels.

*Reservoir across Ramanadi, a tributary of the Tambraparni.*—Gaugings were conducted since 1945 to decide the availability of supply. The scheme was proposed to be taken up if the results of gaugings showed adequate surplus flow for storage over requirements of established irrigation.

*Ghiriyar project.*—Special staff for detailed investigation of the scheme was applied for. The Travancore Government were addressed for permission to enter their area for the investigation of the scheme.

*A reservoir at the foot of the Ghats in the Valai Maliar and Kotta Maliar rivers.*—This scheme was suggested in 1936 as an independent scheme when the Ghiriyar Project was examined. The investigation of this alternative scheme was proposed to be taken up in addition by the special staff applied for the detailed investigation of the Ghiriyar Project.

*Gattanadhi reservoir.*—The proposal was to form a reservoir across Gatta nadhi, a tributary of the Tambraparni. A preliminary report was received from the Superintending Engineer. The availability of surplus for storage over requirements of existing irrigation was ordered to be examined.

*Trichinopoly district—Construction of a reservoir across Kodaganar for feeding the channels below Pallapalayam anicut during period of scarcity.*—The daily and monthly discharge calculations of Kodaganar and the eight Amaravati channels from September 1945 to February 1946 with two approximate estimates for Rs. 8,10,000 and Rs. 11,92,000 and the financial aspect of the scheme received from the Superintending Engineer were under scrutiny by the Chief Engineer (Irrigation).

*North Arcot district.*—Gauge readings in respect of the Ponniar Dam Project at Sathanur were being observed. Preliminary report with rough cost of the scheme was submitted by the Executive Engineer to the Superintending Engineer. Report on the results of gaugings so far observed was awaited from the Executive Engineer. (These were since examined and investigation of the scheme recommended.)

*Coimbatore district—Thattahalla Project (approximate ayacut 3,000 acres).*—Investigation was completed and plans and estimate amounting to Rs. 17·5 lakhs submitted by the Superintending Engineer were under scrutiny by the Chief Engineer (Irrigation).

*Construction of a reservoir across Upper Amaravathi.*—The reservoir was intended for a storage of 1,000 m.c.ft. The scheme in addition to improving the existing irrigation was intended to serve an ayacut of 7,000 to 10,000 acres. Gauge readings were observed for deciding the availability of supply. Investigation of the scheme by a special subdivision was in progress.

*Salem district.*—A reservoir across the Chinnar river was under examination. Investigation of the scheme has since been recommended.

*Malabar district—Malampuzha Project in Palghat taluk (approximate ayacut 40,000 acres.)*—The investigation was almost completed. Plans and estimates for the dam and camps and buildings for Rs. 87·35 lakhs and Rs. 84·4 lakhs respectively were submitted by the Superintending Engineer. Plans and estimate for the canal were partly in progress and partly under scrutiny in the Circle office.

*Mampuzha project.*—Proposals for the construction of a low masonry dam to prevent the entry of tidal water and irrigating 600 acres in Calicut taluk were examined. Preliminary estimate for the construction of an earthen bund and a lock costing Rs. 1,700 as an experimental measure was submitted by the Superintending Engineer and the work is to be taken up at the end of the south-west monsoon.

*Charamangalam anicut across Gayatri river.*—The proposal was to construct an anicut across the river to provide assured supply to existing rainfed wet lands and to bring additional dry lands under wet crops to the extent possible. Investigation was completed by special staff and plans and estimate for Rs. 6,04,050 submitted by the Superintending Engineer on 24th April 1947 were scrutinized and sent to Government on 28th October 1947.

*Vandithode Anicut Channel Extension.*—The scheme in addition to improving the defective irrigation of 269·2 acres of existing ayacut was intended to irrigate an additional new area of 147·29 acres. Investigation was completed by special staff and plans and estimate for Rs. 70,000 submitted by the Superintending Engineer were under scrutiny by the Chief Engineer (Irrigation), during the year and sent to Government on 5th July 1947.

*South Kanara district—Shiriya Scheme.*—The investigation of the scheme was completed and plans and estimate submitted by the Superintending Engineer were under scrutiny by the Chief Engineer (Irrigation) (since sent to Government).

*Kumbla Reclamation Scheme.*—The scheme was investigated and plans and estimate were under scrutiny in the Circle office.

*Gurupur Anicut Scheme.*—Preliminary reports with approximate estimate and plans submitted by the Superintending Engineer were under examination by the Chief Engineer (Irrigation).

Besides the above major schemes a number of small schemes in Malabar and South Kanara districts were also under investigation by special staff.

*Grow More Food Schemes.*—Several major schemes taken up for execution last year were pushed through vigorously and a number of them were either completed or were in an advanced stage of completion. Twenty-one more schemes at an approximate cost of Rs. 46·549 lakhs intended to irrigate about 29,295 acres were sanctioned during the year—vide list appended.

The scheme of subsidy granted by the Government of India for assisting Grow More Food Campaign was 50 per cent of the net outlay on the scheme or the average value at current prices of the increased amount of average annual production in terms of rice anticipated as a result of the scheme, whichever is less.

*Tungabhadra project—Headworks.*—The headworks are under the control of one Superintending Engineer with three Executive Divisions in charge of three Executive Engineers. Quarters have been completed for the Superintending Engineer and two Executive Engineers and also for one Audit Officer. There is an Audit Officer at the Headworks who is pre-auditing the accounts of both the Headworks and the Canals. An office for the Deputy Tahsildar was constructed and is now being occupied by the Audit Office. The Executive Engineers have all moved into the Headworks area early in the year and two of them have been provided with quarters and one is living in a building built for a Subdivisional Officer. The Superintending Engineer also is moving into his quarters completed in the closing months of the year. Semi-permanent houses have been constructed for about 80 per cent of the circle and divisional staff and for the entire Audit staff. A hospital has been constructed with a ward for in-patients. Temporary arrangements for supplying chlorinated water to the entire camp of officers, executive subordinates, circle staff and for the entire labour population have been working throughout the year. Permanent water-supply has been delayed due to dock strike and disturbances in Calcutta which is the headquarters of Messrs. Paterson & Co. who have contracted for the work.

The Board of Consulting Engineers, consisting of Sir M. Visvesvarayya as Chairman and the two Chief Engineers of Madras and Hyderabad has taken decisions on the major points of design and construction of the dam.

Five thousand labourers assisted by cranes, locomotives and a bulldozer are excavating the foundations of the dam. Good progress has been made in this respect and the entire excavation on the Madras side is expected to be completed in the later half of 1948. The dam itself is programmed for completion by the middle of 1951.

A Special Deputy Collector has been appointed to recruit labour and also to look to the welfare of the labour population and provide all possible amenities. Creches and milk powder have been provided for the labourers' children. Clothes, rugs, etc., have been distributed to the labour population at controlled prices. The camp and labour colonies containing 600 semi-permanent huts and another 600 temporary huts are lighted by electricity, generated by portable generating sets. Two 170 K.V. generators ordered from Messrs. Brush & Co. in England in the year 1946 have come in only just now and will be shortly installed.

There is a Health Officer with Health Inspectors attending to the health of the officers, subordinates and labourers. Malaria which used to appear in this area in an epidemic form in previous years has been entirely absent this year.

The Hon'ble N. V. Gadgil, Minister for Works, Mines and Power, Government of India, inspected the headworks area on the 22nd December 1947.

*Canals.*—The Low Level Canal has been aligned up to 175th mile. Land acquisition for the several reaches of the canal has been proceeding rapidly. The canal has been excavated in part in various reaches. The masonry works such as syphon aqueducts, under tunnels and bridges are under very rapid

execution and quite a few of them have been completed. The Hagari Aqueduct consisting of 58 spans of 35' has been commenced and wells for the foundation are being sunk. There is a field laboratory at the site to deal with Soil Mechanics problems and to test building materials.

One Lima shovel just now released from the Army surplus at Avadi is under transport. Nine excavators of an aggregate capacity of 13 c.yds. have been ordered from U.S.A. and two monighans and two $2\frac{1}{2}$ c.yds. shovels have been ordered from England. Those due from U.S.A. are expected to come in before end of 1948 and to be in full working trim by then.

Dearth of local labour and difficulties in importing labour have been responsible for excavation of the canal going slow.

The Special Deputy Collector recently posted is arranging for importation of labour from Salem, Coimbatore, Cuddapah, Vizagapatam and Bezwada.

Rationing has been satisfactorily done at Headworks through the Tungabhadra Project Co-operative Society and in the Canals area through the contractors engaged in the execution.

*Kudimaramat works.*—There has been a change in policy in regard to the execution of kudimaramat works repairs to channels, silt clearance during 1946–47. Government ordered the execution of these works at Government cost in cases where the irrigation had materially suffered and where there was likely to be an appreciable increase in the production of food. About 167 channels at an estimated cost of about 3·75 lakhs were taken up during 1946–47.

*Post-war Reconstruction Schemes.*—The schemes taken up last year were under execution during the year under report.

*Contour-bunding.*—The investigation of the scheme for dry farming and contour-bunding in the famine-affected areas of the Ceded districts was completed. An estimate for Rs. 2·94 lakhs for contour-bunding on an area of about 5,500 acres near Guntakal was submitted to the Government through the Board of Revenue during the previous year. Another scheme for contour-bunding about 2,500 acres near Hagari was also formulated by the Director of Agriculture. Orders of Government on both the schemes were awaited. It was learnt from the Ceded Districts Economic Development Board that Government were contemplating to introduce a bill on contour-bunding.

*Research.*—During the year 1946, the Irrigation Research Station at Poondi made substantial progress in all directions and effected substantial economies in some designs. About Rs. 40,000 was saved in one anicut design alone.

The Soil Mechanics Section attached to the Research Station at Poondi was transferred to Madras and from June 1946 onwards, tests and studies in Soil Mechanics along with Physics were conducted by the staff under the Physics and Soil Mechanics Officer in the Chief Engineer's (Irrigation) office. The laboratory carried out several tests and studies on soil samples received from the project and regular divisions. Experiments on seepage into the coffer-dam and foundation trenches of the Ramapadasagar Project Dam were made. Investigations were taken up to examine the stability against uplift, piping and surface erosion of the Kistna and Godavari anicuts in connection with the proposals to raise the crest levels of these anicuts. A building was under construction near the Chief Engineer's (Irrigation) office for housing the laboratory.

The following were some of the important studies carried out by the Research Station at Poondi during the year :—

(*a*) Coffer Dam alignments for the Ramapadasagar project.

(*b*) Spillway designs for the Ramapadasagar, Tungabhadra, Lower Bhavani, Vaigai and other projects.

(*c*) Stilling of whirlpools in the Godavari gorges.

(*d*) Fluming of the Tungabhadra Low Level and other canals.

(*e*) Remodelling of the Sitanagaram old head sluice of the Kistna West canal.

(*f*) Reduction of afflux at culverts, sluices and inverted syphons.

(*g*) No-fines cement concrete slabs for light roofing.

(*h*) Tank weirs and bye-washes.

(*i*) Off-take at Mettur Dam for the new canal for Salem and Coimbatore.

The Research Station had many distinguished visitors during the year including Sir S. V. Ramamurthi, Sir N. Strathie (Advisers to His Excellency the Governor), Sri M. Bhaktavatsalam, Sri P. S. Kumaraswami Raja and Sri K. Bashyam (Hon'ble Ministers), Prof. Hellstrome (Hydraulic Laboratory, Stockholm), Dr. J. L. Savage (Denver, U.S.A.), Dr. K. Terzaghi (Harward, U.S.A.), Messrs. J. Palmer, L. W. Neylor, Mansingh (Superintending Engineer, Bengal), B. P. Saxena (Superintending Engineer, U.P.), R. S. Chatturvedi (Research Officer, U.P.). Remarks of some of the distinguished visitors are extracted in Appendix.

*Floods, breaches and accidents.*

*Godavari delta.*—The maxium flood level over the crest of the Dowlaishwaram Anicut was 13·9 on 29th July 1946 at 6 a.m. against 13·30 on 24th July 1945 at 6 a.m.

There were no damages due to floods or cyclones during the year. There were no accidents during the year. Of the two (boat accidents on main canal, Godavari Western Delta) occurred in last year the latter that took place at Nidadavole wharf on 29th April 1946 falls in the year under report.

*Kistna delta.*—Due to heavy local rains in November 1946, there was submersion of crops all over Western delta but the damage was slight as the floods receded soon.

The heavy rains of November 1946 brought in heavy floods which caused a number of breaches between 32/5 and 67/3 of Commamur canal. The major breaches occurred were—

(i) At 46/0–1 near Sakikalva under-tunnel.
(ii) at 48/2–3,
(iii) at 64/2–3, and
(iv) at 67/0–3 Emileru outlet.

These breaches were promptly closed by the end of November 1946.

*Ceded districts.*—Abnormal rains in November and December 1946 in Kurnool caused damages to the Paleru Reservoir and Badveed tank. Necessary repairs were carried out. In Cuddapah and Chittoor districts extensive damage to many irrigation works was caused. A special subdivision for breach closing works was formed to attend to the repairs which were estimated to cost Rs. 3 lakhs.

*Salem and North Arcot districts.*—There were heavy flood damages in Dharmapuri and Hosur taluks of Salem district, the most severe of them being the breaching of the Annasagaram tank, Dharmapuri. A new bund was formed and repairs attended to. Damage due to heavy rains in North Arcot district was averted by taking prompt action to regulate the floods.

*Chingleput district.*—Owing to the heavy rainfall in the months of November and December 1946 almost all the tanks in Chingleput district were filled to F.T.L. The Araniar river overflowed its banks at several places below Ponner, causing damage to some villages on its left bank and breaches to several irrigation tanks and the western bank of the Buckingham canal, after vigorous attempts to save it. The Poondi regulator had to be opened fully to discharge the largest flow so far received into the reservoir.

The Palar river was in floods for a considerable period during the year rendering the causeway on the G.S.T. Road near Chingleput impassable for vehicular traffic for nearly two months. The west flood bank of the North Buckingham canal from 5/3 to 10/7 adjoining the Kortalayar river breached at several places. The breaches were immediately closed and the canal was made fit for navigation.

*Nellore district.*—Owing to the heavy rains in November and December 1946 damages were caused to several non-deltaic tanks in Gudur taluk. The Pennar brought unprecedented floods and Sangam anicut breached for a length of 450 ft. and heavy damages were caused to Nellore anicut also.

A special division was sanctioned to attend to the repairs to the breached tanks in the Chingleput and Nellore districts.

*South Arcot district.*—Owing to very heavy rains and consequent floods many tanks in the South Arcot district breached and a special subdivision was formed to close the breaches urgently. The works were in progress.

*Periyar delta.*—Owing to heavy rains in the middle of November and in the beginning of December, heavy floods occurred in the Periyar delta resulting in several breaches in tanks and channels. Timely action was taken to close them.

## LIST OF SCHEMES SANCTIONED UNDER "GROW MORE FOOD" CAMPAIGN DURING THE YEAR 1946-47.

| Serial number. | Name of scheme. | Cost. | Area benefited. |
|---|---|---|---|
| | | RS. | ACS. |
| 1 | Extension of irrigation in Komaragiripatnam village, Amalapuram taluk, East Godavari district (G.O. Ms. No. 947, P.W., dated 2nd April 1946). | 85,000 | 874 |
| 2 | Extension of irrigation beyond Narasinga Cauvery (Full scheme) (G.O. No. 952, P.W., dated 3rd April 1946). | 19·3 lakhs. | 15,000 |
| 3 | Provision of irrigation facilities by excavating New Seethampettah channel from Kistna-Ellore canal, East Godavari district (G.O. Ms. No. 1121, P.W., dated 17th April 1946). | 2,95,360 | 5,030 |
| 4 | Restoration of Kothavadi tank, Pollachi taluk, Coimbatore district (G.O. Ms. No. 1235, P.W., dated 27th April 1946). | 1·5 lakhs. | 295 |
| 5 | Provision of irrigation facilities in Vakkur and Kappiampuliyur villages, Villupuram taluk, South Arcot district (G.O. Ms. No. 1365, P.W., dated 13th May 1946). | 30,000 | 390 |
| 6 | Providing irrigation facilities from the tail end of Komatigunta channel, Gannavaram taluk, Kistna district (G.O. Ms. No. 1640, P.W., dated 15th June 1946), for providing better irrigation facilities to the existing ayacut of 1,020 acres. | 13,900 | No new ayacut. |
| 7 | Excavation of New Rudravaram channel for providing irrigation facilities to Rudravaram and Chigurukota blocks, Kaikalur taluk, Kistna district (G.O. Ms. No. 1857, P.W., dated 5th July 1946). | 30,000 | 636 |
| 8 | Providing irrigation facilities to Melamarthi lanka and Chiruvola lanka villages, Divi taluk, Kistna district (G.O. Ms. No. 1940, P.W., dated 17th July 1946). | 16,119 | 540 |
| 9 | Chapad channel No. 6 distributary—Deficient supply—Excavation of a channel to supplement supply to the tail end ayacut, etc., Proddatur taluk, Cuddapah district. | 12,630 | 1,300 |
| 10 | Constructing a temporary dam with lock of simple gate on Mampuzha canal, Malabar district (G.O. Ms. No. 2452, P.W., dated 13th September 1946). | 1,709 | 336 |
| 11 | Extension of Hospital channel, East Godavari district (G.O. Ms. No. 2636, P.W., dated 8th October 1946). | 68,000 | 382 |
| 12 | Construction of a bed regulator across the Cauvery at Jeddarpalayam at the head of the Rajah channel, Namakkal taluk, Salem district (G.O. Ms. No. 94, P.W., dated 13th January 1 47). | 5,035<br>R.E. 6,442 lakhs. | |
| 13 | Remodelling and extending R.B. 5/9 channel for providing irrigation facilities to lands in Therkukottai and Vadakukottai villages, Pattukottai taluk, Tanjore district. | 9,800 | 300 |
| 14 | Construction of a combined lock and regulator at Podalada in Gannavaram canal at 34/4, Razole taluk, East Godavari district (G.O. No. 247, P.W., dated 28th January 1947) (for providing better irrigation facilities to the existing ayacut of 17,774 acres). | 1,37,500 | No new ayacut. |
| 15 | Extension of Ponukumada channel and providing a branch channel in Kistna Eastern delta, Gudivada taluk, Kistna district (G.O. Ms. No. 517, P.W., dated 27th February 1947). | 13,510 | .. |
| 16 | Peddakandaleru project, Vinukonda taluk, Guntur district (G.O. Ms. No. 552, P.W., dated 1st March 1947). | 3·8 lakhs. | 650 |
| 17 | Providing irrigation facilities to dry lands in Mandavalli and Chingurukotah blocks, Kaikalur taluk, Kistna district (G.O. Ms. No. 553, P.W., dated 1st March 1947). | 32,000 | 863 |

| Serial number. | Name of scheme. | Cost. | Area benefited. |
|---|---|---|---|
| | | RS. | ACS. |
| 18 | Improvements to Alivoikkal drain and seven other drains in Cauvery-Mettur Project area (G.O. Ms. No. 550, P.W., dated 1st March 1947). | 6,62,970 | 1,696 (new area) 2,627 (relief from submersion.) |
| 19 | Excavating a new branch channel—Mevani distributary from M/8–3½, ugalur branch channel Gobichettipalayam taluk, Coimbatore district (G.O. Ms. No. 718, P.W., dated 14th March 1947). | 55,000 | 263 |
| 20 | Restoration of Mella tank of Gotipadhya village, Markapur taluk, Kurnool district (G.O. Ms. No. 719, P.W., dated 15th March 1947). | 54,500 | 300 |
| 21 | Providing irrigation facilities to dry lands in Rachapatnam village, Kaikalur taluk, Kistna district (G.O. Ms. No. 727, P.W., dated 15th March 1947). | 32,800 | 530 |
| | Total | 46,549 lakhs. | 29,295 acres. |

MADRAS,
*6th February* 1948.

A. R. VENKATA ACHARYA,
*Chief Engineer for Irrigation.*

## RESEARCH STATION, POONDI.

IMPRESSIONS OF THE VISITORS.

(1)

As an Engineer who knows "how" it has been the greatest pleasure to meet and work so happily with Dr. Rao, certainly one of the finest brains in the world to say "why". Good luck to him and to Mr. Kuttiammu and the Polavaram model.

J. PALMER,
28th August 1946. *Rendal Palmer and Tritton, England.*

(2)

This is a very important station. I was very much interested in it. I am glad to be acquainted with the details. This has a great future relating to the proposed development in irrigation and the study of irrigation problems.

M. BHAKTAVATSALAM,
31st May 1946. *Hon'ble Minister for Public Works.*

(3)

I had not heard of this Irrigation Research station before as it was sanctioned before I dealt with Finance. It is well laid out and I am sure the experiments conducted and the knowledge gained here will be the most useful in the big irrigation development that Government have in hand.

N. STRATHIE,
7th November 1945. *First Adviser to His Excellency the Governor.*

(4)

I am glad to have visited the Research station which is very necessary and full of promise for the future of irrigation in this Province.

S. V. RAMAMURTHI,
8th July 1945. *Second Adviser to His Excellency the Governor.*

(5)

Since my last visit, I have seen some new interesting experiments.

M. BHAKTAVATSALAM,
8th September 1946. *Hon'ble Minister for Public Works Department.*

KUMARASWAMY RAJA,
8th September 1946. *Hon'ble Minister for Agriculture.*

(6)

Numerous models have been put down for the study of irrigation problems within a short time. High co-efficient weirs models in connexion with the Tungabhadra Project and many others, are very interesting. The Research laboratory has progressed so fast that it should serve a good example for the backward provinces. Mr. T. P. Kuttiammu and his officers are to be congratulated.

B. P. SAXENA,
28th September 1946. *Superintending Engineer, U.P., P.W.D.*

(7)

Hearty congratulations to comrade Kuttiammu for this wonderful show and greetings on behalf of Irrigation Research Station, United Provinces.

R. S. CHATURVEDI,
28th September 1946. *Research Officer, United Provinces.*

(8)

It always is a pleasure to visit an organization where modern research investigation is being carried out. The hydraulic laboratory at Poondi Dam is a fine example of the commendable efforts that Madras Engineers making in designing the Polavaram Dam. It is a pleasure to record herein my congratulations.

J. L. SAVAGE,
1st November 1946. 1651, *Dahlia Street, Denver, Colorado, U.S.A.*

(9)

We saw to-day the candles floating in the water past a small scale model of the Polavaram Coffer Dam. I wish to you that you may see before long the mighty Godavari himself shooting past a similar coffer dam but on a 1 : 1 scale.

K. TERZAGHI,
1st November 1946. *Harward University, Cambridge, Man., U.S.A.*

(10)

A very interesting visit to Poondi Hydraulic experimental station that showed me the excellent work being done here.

L. W. NAYLOR (of Holland),
15th December 1946. *Messrs. Burma Shell.*

(11)

As Secretary, Central Board of Irrigation, I was of course aware that a research station was being established at Poondi but what I have seen here to-day has been a very pleasant surprise. The work that has been done during the last eight or nine months is a matter of congratulation not only to the Madras P.W.D. but to the Irrigation profession throughout India.

W. D. GULHATI,
*Secretary, Central Board of Irrigation.*

1st February 1947.

(12)

I am interested in seeing the Irrigation Research Station at Poondi. There is an attempt to try out on model experiments every major item affecting Major Irrigation works proposed for Madras. This is a matter of congratulation and shows that Engineers and others are realizing the practical value of Research and statistics for not only the province concerned but the whole profession. I am grateful to have had the opportunity to go round the station.

KALEY,
*Chief Engineer, P.W.D., Bombay.*

1st February 1947.

(13)

The station has developed very rapidly since we know of it. This is very creditable for the officer-in-charge and the P.W.D. saw some very interesting models carried out on novel lines. Would like to know the results obtained.

N. K. BOSE,
*Director, River Research Institute, Bengal.*

1st February 1947.

(14)

I was greatly interested in the very useful works being done at the Poondi Research Station to find solutions for the hydraulic problems arising out of the existing and proposed irrigation and hydel works of the Province. I wish these activities ever-increasing success.

M. L. SOOD,
*Secretary, Central Waterways, Irrigation and Navigation Commission, New Delhi.*

11th February 1947.

(15)

An education. How I wish I were a school boy again and Kuttiammu as the Master showman.

L. VENKATAKRISHNA IYER,
*Retd. Chief Engineer, Madras.*

20th February 1947.

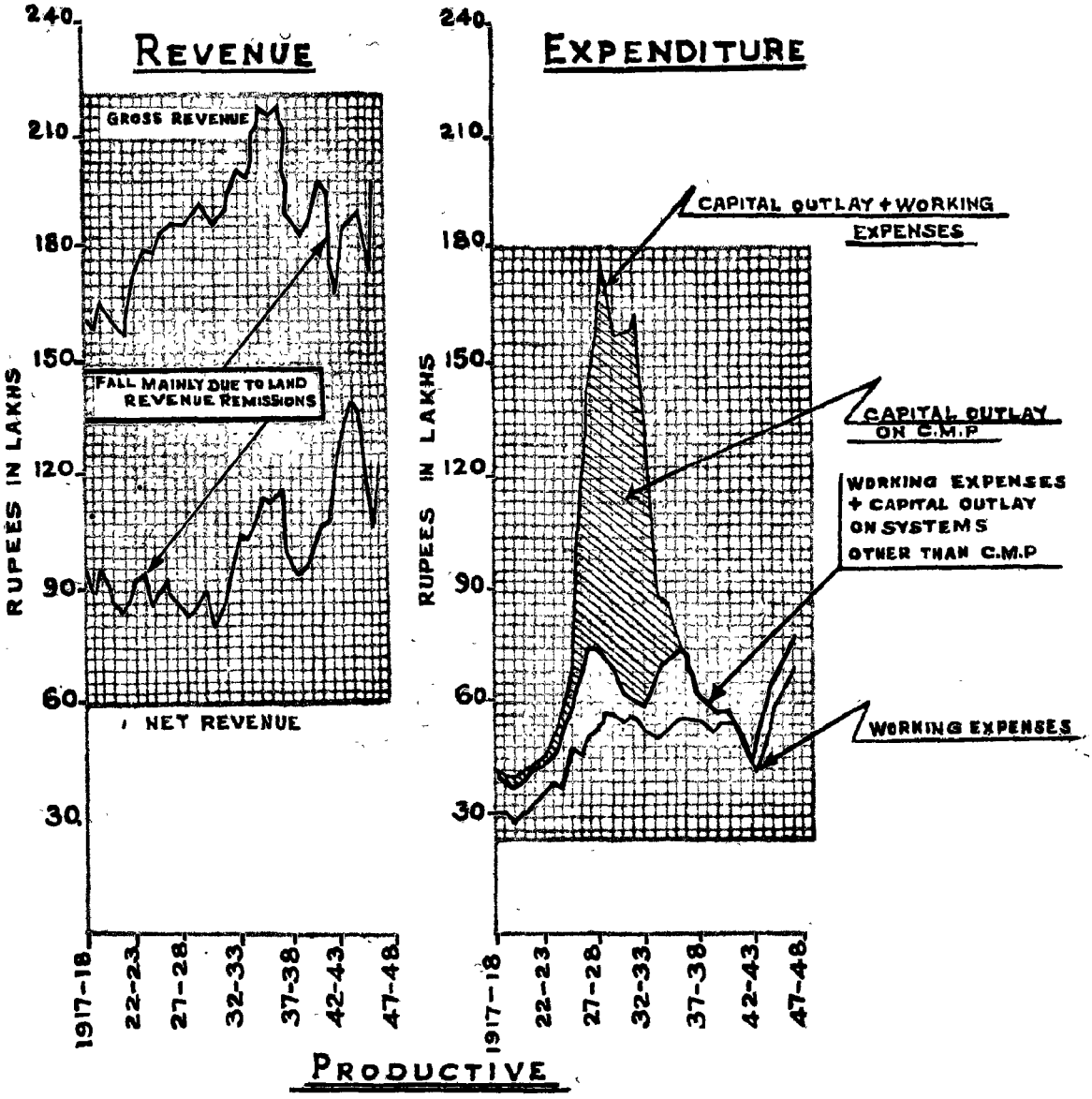
(16)

Every dam should be studied in a model before it is carried out. You are doing it in an excellent manner. I congratulate you and your country on your enterprising efforts. With best greetings from the Hydraulic laboratory of the Royal Institute of Technology at Stockholm, Sweden.

B. O. HEIJLSTROME,
*Hydraulic Laboratory, Stockholm, Sweden.*

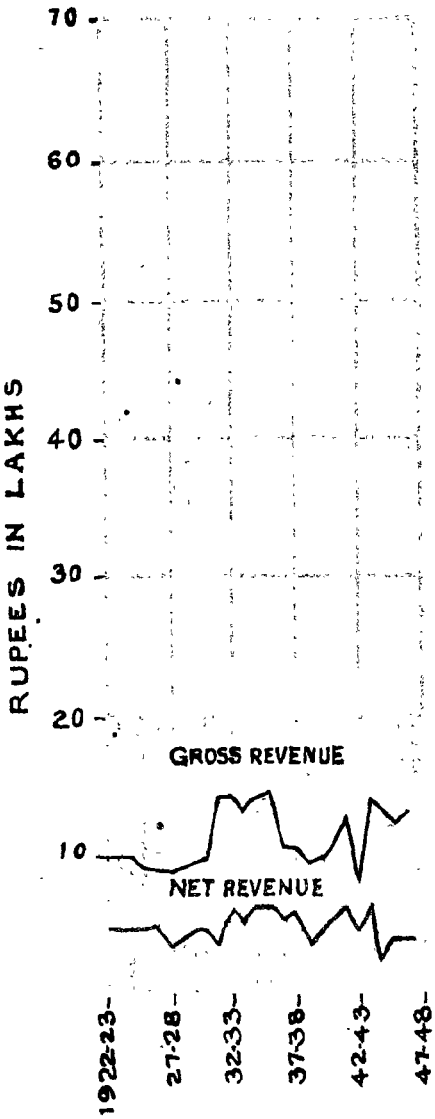
18th July 1946.

# FINANCIAL RECORD.

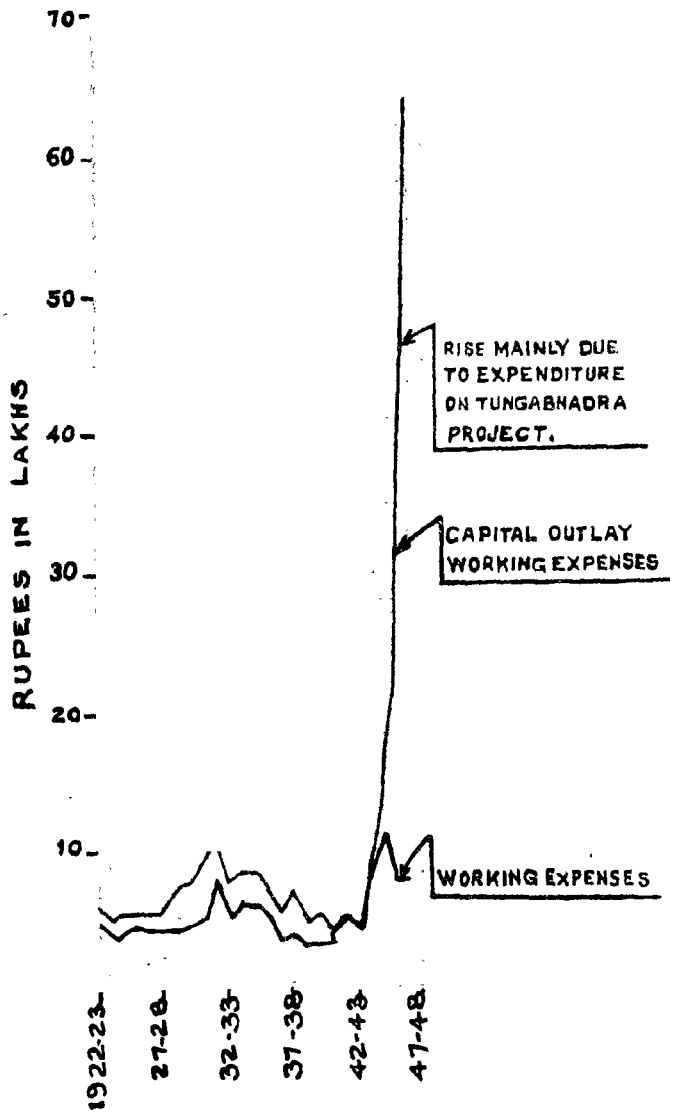


# FINANCIAL RECORD

## REVENUE




## EXPENDITURE




## UNPRODUCTIVE

NOTE:

LARGE VARIATIONS DUE TO TRANSFERS FROM U.P. TO P & VICE VERSA

# APPENDIX I.

## STATISTICAL STATEMENTS (PRESCRIBED BY THE SECRETARY OF STATE).

### A-I.—Statement of canals in the Madras Presidency for the year 1946–47.

| | | Cauvery delta system. | Srivaikuntam anicut system. | Godavari delta system. | Mehmattur anicut system. | Tadepalli channel. | Kalingaroyan channel. | Vriddhachalam anicut system. | Marudur anicut system. |
|---|---|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Source of supply of water | | River Cauvery. | River Tambaraparni. | River Godavari. | River Manimuktanadhi. | River Bhavani. | River Bhavani. | River Manimuktanadhi. | River Tambaraparni. |
| Minimum discharge of river | C.ft. per second. | Springs not measurable. | .. | .. | 163 | .. | .. | 17 | .. |
| Maximum discharge of main canals as designed | ,, | 45,030 | 2,855 | 14,570 | 263 | 725 | 893 | 351 | 1,595 |
| Maximum discharge during the year | ,, | 23,168 | 2,485 | 15,110 | 96 | 905 | 601 | 394 | 1,216 |
| Average rainfall for the year | Inches. | 64·31″ | 59·82″ | 111·45″ | 63·09″ | 46·29″ | 33·24″ | 65·54″ | 59·82″ |
| Gross area commanded | Acres. | 1,706,023 | 80,000 | 1,379,445 | 13,792 | 20,693 | 23,696 | 19,993 | 35,840 |
| Culturable area commanded | ,, | 909,034 | 33,500 | 877,806 | 10,651 | 19,332 | 12,805 | 16,359 | 17,920 |
| Area irrigable by complete project | ,, | 909,034 | 26,000 | 873,000 | 5,200 | 19,332 | 12,805 | 15,559 | 17,920 |
| Area irrigable at present | ,, | 900,925 | 26,000 | 899,350 | 4,555 | 15,362 | 12,423 | 8,829 | 17,920 |
| Sanctioned estimate— | | | | | | | | | |
| Direct charges | Rs. | 83,26,762 | 13,61,520 | 1,10,89,332 | 87,184 | 1,70,380 | 1,78,780 | 1,08,204 | 60,122 |
| Indirect charges | ,, | | 1,15,286 | 19,34,864 | | 11,050 | 4,746 | | |
| Interest during construction | ,, | | 7,49,577 | 1,11,38,052 | | .. | .. | | |
| Total, Estimate | ,, | 83,26,762 | 22,26,383 | 2,41,62,248 | 87,184 | 1,81,430 | 1,83,526 | 1,08,204 | 60,122 |
| Expenditure to end of 1946–47— | | | | | | | | | |
| Direct charges | Rs. | 84,43,900 | 16,67,459 | 1,98,66,635 | .. | 1,66,383 | 1,75,980 | .. | 58,721 |
| Indirect charges | ,, | 2,73,174 | 1,07,604 | 20,95,320 | 1,69,386 | 11,063 | 4,746 | 2,26,541 | 1,401 |
| Interest during construction | ,, | 13,37,765 | 8,67,827 | 99,82,397 | .. | .. | .. | .. | .. |
| Total, Expenditure | ,, | 1,00,54,839 | 26,42,890 | 3,19,44,352 | 1,69,386 | 1,77,446 | 1,80,726 | 2,26,541 | 60,122 |
| Works completed at the end of 1946–47— | | | | | | | | | |
| Main canals, irrigation | Miles. | 943½ | 28 | 509⅝ | 7 | 48 | 57 | 17 | 29 |
| Branch canals, irrigation | ,, | .. | | .. | 8 | 37 | 5½ | 16 | |
| Distributaries | ,, | 2,798½ | 46 | 1,925½ | 9·26 | .. | .. | 16 | 7½ |
| Of above— | | | | | | | | | |
| Navigable | ,, | .. | .. | 498 | .. | .. | .. | .. | .. |

## A-I.—Statement of canals in the Madras Presidency for the year 1946–47—*cont.*

| | | Pennar river canals system. | Arakankota channel. | Tirukkoyilur anicut system. | Shatiatope anicut system. | Cheyyar anicut system. | Poiney anicut system. | Kistna delta system. | Nandiyar channel system. |
|---|---|---|---|---|---|---|---|---|---|
| | | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
| Source of supply of water | | River Pennar. | River Bhavani. | River Ponniar. | River Vellar. | River Cheyyar. | River Poiney. | River Kistna. | River Nandiyar. |
| Minimum discharge of river | C.ft. per second. | .. | .. | .. | 136 | .. | .. | 64 | .. |
| Maximum discharge of main canals as designed | ,, | 7,760 | 552 | 1,271 | 850 | 1,542 | 3,217 | 14,314 | 237 |
| Maximum discharge during the year | ,, | 7,114 | 339 | 1,088 | 1,340 | 346 | 1,612 | 15,906 | 185 |
| Average rainfall for the year | Inches. | 62·93″ | 46·29″ | 64·75″ | 71·01″ | 63·62″ | 70·04″ | 42·10″ | 35·85″ |
| Gross area commanded | Acres. | 258,600 | 6,000 | 54,895 | 108,069 | 29,461 | 42,560 | 1,350,400 | 9,480 |
| Culturable area commanded | ,, | 190,000 | 5,000 | 45,977 | 43,965 | 29,461 | 23,824 | 1,040,000 | 9,480 |
| Area irrigable by complete project | ,, | 170,000 | 5,000 | 28,000 | 34,000 | 23,629 | 23,824 | 988,000 | 7,295 |
| Area irrigable at present | ,, | 167,500 | 4,821 | 28,000 | 33,000 | 22,687 | 22,462 | 880,000 | 7,280 |
| Sanctioned estimate— | | | | | | | | | |
| Direct charges | Rs. | 47,80,289 | 1,47,006 | | | 5,24,798 | 2,95,106 | 1,42,13,010 | 63,231 |
| Indirect charges | ,, | 10,06,096 | 3,676 | 3,99,190 | 10,89,561 | 15,201 | 8,812 | 9,81,160 | 2,484 |
| Interest during construction | ,, | 22,88,418 | .. | | | | | 1,28,24,716 | .. |
| Total, Estimate | ,, | 80,74,803 | 1,50,682 | 3,99,190 | 10,89,561 | 5,39,999 | 3,03,918 | 2,80,18,886 | 65,715 |
| Expenditure to end of 1946–47— | | | | | | | | | |
| Direct charges | Rs. | 60,52,872 | 1,40,769 | .. | .. | 5,24,798 | 2,95,106 | 1,43,42,136 | 62,231 |
| Indirect charges | ,, | 10,17,874 | 3,676 | 9,25,985 | 14,81,879 | 15,201 | 8,812 | 9,82,171 | 2,484 |
| Interest during construction | ,, | 25,84,125 | .. | .. | .. | .. | .. | 1,28,24,716 | .. |
| Total, Expenditure | ,, | 96,54,871 | 1,44,445 | 9,25,985 | 14,81,879 | 5,39,999 | 3,03,918 | 2,81,49,023 | 65,715 |
| Works completed at the end of 1946–47— | | | | | | | | M. CHS. | |
| Main canals, irrigation | Miles. | 44⅝ | 20 | 57. | 3 | 21 | 55 | 388 7½ | 6½ |
| Branch canals, irrigation | ,, | 143½ | 4 | 80 | 38 | 40 | 49 | | |
| Distributaries | ,, | 352½ | .. | 28·23 | 149 | 120 | 78 | 2,115 23½ | 16½ |
| Of above— | | | | | | | | | |
| Navigable | ,, | .. | .. | .. | .. | .. | .. | .. | .. |

## A-I.—Statement of canals in the Madras Presidency for the year 1946-47—*cont.*

| | | Chicacole minor rivers system. | Lower Coleroon anicut system. | Kistna East Bank canal extension scheme (Divi pumping system). | Polavaram Island Project. | Kattalai scheme *Total of (*a*), (*b*) and (*c*). | Kurnool-Cuddapah canal. | Vallur anicut system. | Pelandural anicut system. |
|---|---|---|---|---|---|---|---|---|---|
| | | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) |
| Source of supply of water | | Rivers Langulya, Vamsadhara and Garibula-gedda. | River Coleroon. | River Kistna. | Godavari Central Delta canal. | River Cauvery. | River Tunga-bhadra. | River Kortalayar. | River Vellar. |
| Minimum discharge of river | C.ft. per second. | .. | .. | .. | 91 | .. | 227 | .. | .. |
| Maximum discharge of main canals as designed | „ | Not known | 2,377 | 1,257 | 292 | 1,671 | 2,000 | 113 | 740 |
| Maximum discharge during the year | „ | Not known | 4,068 | 1,313 | 279 | 1,437 | 1,570 | .. | 301 |
| Average rainfall for the year | Inches. | 33·73″ | 72·34″ | 43·33″ | 37·76″ | 40·24″ | 23·53″ | 97·64″ | 65·90″ |
| Gross area commanded | Acres. | 88,000 | 158,526 | 1,70,000 | 23,135 | 78,597 | 383,115 | 10,124 | 60,670 |
| Culturable area commanded | „ | 70,000 | 117,233 | 1,36,000 | 18,648 | 74,978 | 357,569 | 6,974 | 16,677 |
| Area irrigable by complete project | „ | 67,000 | 110,308 | 88,000 | 17,500 | 72,207 | 130,282 | 5,216 | 16,000 |
| Area irrigable at present | „ | 67,000 | 107,929 | 88,000 | 17,500 | 66,632 | 123,419 | 5,216 | 12,839 |
| Sanctioned estimate— | | | | | | | | | |
| Direct charges | Rs. | 2,78,196 | 30,01,669 | 58,18,267 | 17,97,194 | 45,13,712 | 2,33,87,114 | 74,535 | 6,92,074 |
| Indirect charges | „ | 11,030 | | | 24,463 | 18,21,296 | .. | 1,666 | |
| Interest during construction | „ | | | | 1,17,744 | .. | .. | .. | |
| Total, Estimate | „ | 2,89,226 | 30,01,669 | 58,18,267 | 19,39,401 | 63,35,008 | 2,33,87,114 | 76,201 | 6,92,074 |
| Expenditure to end of 1946-47— | | | | | | | | | |
| Direct charges | Rs. | 2,78,196 | 38,73,484 | 57,48,173 | 16,76,938 | 40,53,867 | 2,33,32,733 | 74,366 | 8,48,828 |
| Indirect charges | „ | 11,030 | | 1,07,313 | 27,527 | 98,316 | 73,583 | 1,916 | |
| Interest during construction | „ | .. | | .. | 1,17,744 | 18,21,296 | .. | .. | |
| Total, Expenditure | „ | 2,89,226 | 38,73,484 | 58,55,486 | 18,22,209 | 59,73,479 | 2,34,06,316 | 76,282 | 8,48,828 |
| Works completed to end of 1946-47— | | | | | | | | | |
| Main canals, irrigation | Miles. | 87½ | 94 | 37 | .. | 74¼ | 417⅝ | .. | 15 |
| Branch canals, irrigation | „ | 191⅞ | 256 | .. | 44⅝ | .. | .. | 5⅝ | 24 |
| Distributaries | „ | 78⅜ | 648·25 | 259¼ | .. | 106 | 294¼ | 8 | 25 |
| Of above— | | | | | | | | | |
| Navigable | „ | .. | .. | 35½ | .. | | 75 | .. | |

* Kattalai scheme.

| South bank canal. | High level channel. | Sriramasamudram channel. |
|---|---|---|
| 42,000 | 25,597 | 11,000 |
| 41,000 | 23,378 | 10,600 |
| 40,000 | 21,807 | 10,400 |
| 35,164 | 21,318 | 10,150 |

## A-I.—Statement of canals in the Madras Presidency for the year 1946–47—*cont.*

| | | Palar anicut system. | Muniyeru system. | Sagileru system. | Nagavalli river system. | Nagavaram anicut and supply channel. | Kaniyam-palayam anicut. | Veda-ranyam canal. | Buckingham canal. | Duvvaleru project. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) |
| Source of supply of water .. .. .. .. .. .. | | River Palar. | River Muniyeru. | River Sagileru. | River Nagavalli. | River Gunjaneru. | River Bhavani. | .. | .. | River Duvvaleru. |
| Minimum discharge of river .. .. .. .. .. | C.ft. per second. | .. | 52 | No flow. | 164 | .. | Not gauged. | .. | .. | .. |
| Maximum discharge of main canals as designed .. .. | „ | 5,631 | 338 | 477 | 414 | 78 | 27·56 | .. | .. | 100 |
| Maximum discharge during the year .. .. .. | „ | .. | 292 | 387 | 443 | 56,474 | .. | .. | .. | 100 |
| Average rainfall for the year .. .. .. .. | Inches. | 59·85″ | 38·12″ | 27·84″ | 44·43″ | 67·51″ | 44·95″ | .. | .. | .. |
| Gross area commanded .. .. .. .. .. | Acres. | 141,031 | 14,471 | 33,576 | 49,920 | 894 | 1,600 | .. | .. | 1,355 |
| Culturable area commanded .. .. .. .. .. | „ | 105,032 | 13,024 | 26,576 | 31,200 | 894 | 432 | .. | .. | 1,355 |
| Area irrigable by complete project .. .. .. .. | „ | 82,718 | 10,580 | 4,500 | 27,658 | 894 | 400 | .. | .. | 1,355 |
| Area irrigable at present .. .. .. .. .. | „ | 78,668 | 10,000 | 4,500 | 27,500 | 894 | 392 | .. | .. | 1,284 |
| *Sanctioned estimate—* | | | | | | | | | | |
| Direct charges .. .. .. .. .. .. | Rs. | 23,71,791 | 6,09,601 | 4,47,108 | 17,47,770 | 1,07,295 | 1,36,343 | 1,32,699 | 95,81,344 | 1,50,620 |
| Indirect charges .. .. .. .. .. .. | „ | 1,17,484 | | 17,619 | 68,530 | 2,595 | 3,757 | 3,733 | | 1,455 |
| Interest during construction .. .. .. .. .. | „ | .. | | .. | 2,93,217 | .. | .. | .. | | .. |
| Total, Estimate .. | „ | 24,89,275 | 6,09,601 | 4,64,727 | 21,09,517 | 1,09,890 | 1,40,100 | 1,36,432 | 95,81,344 | 1,52,075 |
| **Expenditure to end of 1946–47—** | | | | | | | | | | |
| Direct charges .. .. .. .. .. .. | Rs. | 23,71,791 | 5,79,336 | 4,47,108 | 17,57,328 | 1,07,295 | 1,07,221 | 1,32,699 | 90,78,027 | 1,46,233 |
| Indirect charges .. .. .. .. .. .. | „ | 1,17,484 | 30,265 | 17,619 | 44,655 | 2,595 | 3,853 | 3,733 | 4,93,770 | 1,058 |
| Interest during construction .. .. .. .. | „ | .. | .. | .. | 2,93,217 | .. | .. | .. | .. | .. |
| Total, Expenditure .. | „ | 24,89,275 | 6,09,601 | 4,64,727 | 20,95,200 | 1,09,890 | 1,11,074 | 1,36,432 | 95,71,797 | 1,47,291 |
| **Works completed at the end of 1946–47—** | | | | | | | | | | |
| Main canals, irrigation .. .. .. .. .. | Miles. | 157 | 26⅝ | 12 | 23⅜ | 2 | 10½ | 45¼ | 262 | 5¼ |
| Branch canals, irrigation .. .. .. .. .. | „ | .. | 23½ | .. | 41⅛ | .. | .. | .. | .. | 2½ |
| Distributaries .. .. .. .. .. .. | „ | 227 | 2⅜ | .. | 47 | .. | .. | .. | .. | .. |
| *Of above—* | | | | | | | | | | |
| Navigable .. .. .. .. .. .. .. | „ | .. | .. | .. | .. | .. | .. | .. | 262 | .. |

# A-II.—Statement of reservoir projects in the Madras Presidency for the year 1946–47.

| — | | Chembarambakkam tank. | Cumbum tank. | Periyar system. | Toludur project (Willingdon reservoir). | Cauvery-Mettur system. (Stanley reservoir). | Barur tank. | Madras water-supply and irrigation system. |
|---|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Source of supply of water | | Cooum river. | Gundlakamma and Jampaleru rivers. | Periyar and Vaigai rivers. | Vellar river and rainfall. | Cauvery river. | Ponniar and local rivers. | Kortalayar river. |
| If supplied by rainfall. Area of catchment | Sq. miles. | 100 | 430 | 239 | 50 | 16,300 | 2,082 | 34 |
| If supplied by rainfall. Average rainfall during the year | Inches. | 79·70″ | .. | 91·82″ | 71·41″ | .. | 45·47″ | 81·09″ |
| Contents of tank between levels of surface of full supply and sill of canal head sluice. | Mill. c.ft. | 3,146 | 2,942·17 | 9,815 | 2,591·58 | 93,500 | 248·63 | 2,729·864 |
| Area of surface at full supply | Acres. | 5,729 | 5,697 | 10·20 square miles. | 3,946 | 37,920 | 26·35 | 5,361 mill. c.ft. |
| Gross area commanded | „ | 32,554 | 7,860 | 768,000 | 38,400 | 497,200 | 6,887 | 16,129 |
| Culturable area commanded | „ | 24,478 | 6,000 | Not known. | 28,800 | 497,200 | 6,887 | 10,165 |
| Area irrigable by complete project | „ | 15,300 | 6,000 | 143,000 | 27,670 | 332,000 | 6,887 | 9,852 |
| Area irrigable at present | „ | 13,000 | 5,980 | 143,000 | 25,000 | 332,000 | 6,887 | 7,500 |
| Sanctioned estimate— | | | | | | | | |
| Direct charges | Rs. | 6,48,970 | 83,985 | 1,08,35,654 | 29,60,000 | 7,23,11,000 | 4,00,000 | 15,47,123 |
| Indirect charges | „ | 1,12,547 | 2,388 | | 2,50,000 | 13,97,000 | 25,300 | 2,38,945 |
| Interest during construction | „ | .. | .. | | 2,10,270 | 1,42,81,366 | 41,439 | .. |
| Total, Estimate | „ | 7,61,517 | 86,373 | 1,08,35,654 | 34,20,270 | 8,79,89,366 | 4,66,739 | 17,86,068 |
| Expenditure to end of 1946–47— | | | | | | | | |
| Direct charges | Rs. | 6,51,348 | 83,985 | 1,04,64,627 | .. | 6,36,18,643 | 4,28,228 | 16,71,682 |
| Indirect charges | „ | 1,12,795 | 2,388 | 3,71,027 | 28,40,108 | 10,40,271 | 23,809 | 2,50,037 |
| Interest during construction | „ | .. | .. | 16,06,402 | .. | 2,41,45,532 | 80,175 | .. |
| Total, Expenditure | „ | 7,64,143 | 86,373 | 1,24,42,056 | 28,40,108 | 8,88,04,446 | 5,32,212 | 19,21,719 |
| Works completed to end of 1946–47— | | | | | | | | |
| Dam (height completed) | Feet. | 25 | 56 | 173 | 50 | 214 | 28 | 30 |
| Canals | Miles. | 10¾ | | 152 | 31¾ | 113¾ | 11 | 11½ |
| Distributaries | „ | 1¾ | 28¾ | 118 | 40 | 594½ | 26 | .. |

APPENDIX I

## A-II.—Statement of reservoir projects in the Madras Presidency for the year 1946–47—*cont.*

| | | Dondapad tank. | Yerur tank. | Atmakur tank. | Janga-maheswara-puram tank. | Anama-samudram Beeraperu tank. | Hajipuram tank. | Ponnalur tank. |
|---|---|---|---|---|---|---|---|---|
| | | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
| Source of supply of water | | Rainfall. | Rainfall and surplus of upper tanks and spill from Challa-kalva branch of Swarna-muki. | Catchment of Chandra vanka and Kolagunda vagus. | Catchment of Dondi vagu. | Beeraperu river. | Damaleru diverted into the tank. | |
| If supplied by rainfall. Area of catchment | Sq. miles. | 56 | 60·50 | 105 | 60 | 23·62 | 100·20 | 32·14 |
| If supplied by rainfall. Average rainfall during the year | Inches. | 9·5″ | 88·31″ | 25·65″ | 25·65″ | 33″ | 48·81″ | 28″ |
| Contents of tank between levels of surface of full supply and sill of canal head sluice. | Mill. c.ft. | 288·38 | 317·69 | 164 | 79 | 90·57 | 309 | 180·512 |
| Area of surface at full supply | Acres. | 705 | 3,285 | 575 | 619 | 474 | 1,600 | 719 |
| Gross area commanded | „ | 3,240 | 3,176 | 1,700 | 960 | 1,000 | 2,900 | 1,973 |
| Culturable area commanded | „ | 2,880 | 3,176 | 1,160 | 960 | 1,000 | 2,900 | 1,973 |
| Area irrigable by complete project | „ | 250 | 3,176 | 460 | 290 | 1,000 | 700 | 1,000 |
| Area irrigable at present | „ | 250 | 1,470 | 460 | 290 | 1,000 | 700 | 1,000 |
| Sanctioned estimate— | | | | | | | | |
| Direct charges | Rs. | 1,24,786 | 61,741 | 1,11,959 | 61,253 | 71,687 | 2,78,774 | 1,92,975 |
| Indirect charges | „ | 15,218 | 1,612 | 13,444 | 10,411 | 1,886 | 33,109 | 25,674 |
| Interest during construction | „ | .. | .. | .. | .. | .. | .. | .. |
| Total, Estimate | „ | 1,40,004 | 63,353 | 1,25,403 | 71,664 | 73,573 | 3,11,883 | 2,18,649 |
| Expenditure to end of 1946–47— | | | | | | | | |
| Direct charges | Rs. | 1,24,786 | 61,741 | 1,14,811 | 61,253 | 71,687 | 2,78,774 | 1,92,975 |
| Indirect charges | „ | 15,218 | 1,612 | 13,466 | 10,411 | 1,886 | 33,109 | 25,674 |
| Interest during construction | „ | .. | .. | .. | .. | .. | .. | .. |
| Total, Expenditure | „ | 1,40,004 | 63,353 | 1,28,277 | 71,644 | 73,573 | 3,11,883 | 2,18,649 |
| Works completed to end of 1946–47— | | | | | | | | |
| Dam (height completed) | Feet. | 23 (partly in earth and partly in masonry). | .. | 33 | 24 | | 6 | 21½ |
| Canals | Miles. | .. | .. | | 3½ | | .. | .. |
| Distributaries | „ | 6⅞ | | 4½ | 5½ | 2⅝ | 4½ | 7 |

## A-II.—Statement of reservoir projects in the Madras Presidency for the year 1946–47—*cont.*

| | | Markapur tank. | Venkatapuram tank. | Bhavanasi tank. | Yellanur tank. | Panjapatti reservoir. | Siddapur tank. | Mopad reservoir. | Thippayapalem project. |
|---|---|---|---|---|---|---|---|---|---|
| | | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) |
| Source of supply of water | | Gundlakamma river. | Free basin and supply from Dhona vagu. | Rainfall. | Catchment basin and supply from Chitravati river. | Drainage basin. | Bhavanasi and other vagus. | Manneru river. | Rainfall. |
| If supplied by rainfall. Area of catchment | Sq. miles. | 270·25 | 51 | 43 | 20·5 | 108 | 45 | 250 | 120 |
| If supplied by rainfall. Average rainfall during the year | Inches. | .. | 25·60″ | 39·13″ | 29·01″ | 19·10″ | 31·93″ | 35·38″ | .. |
| Contents of tank between levels of surface of full supply and sill of canal head sluice. | Mill. c.ft. | 124·52 | 237 | 174·64 | 342·5 | 225 | 636 | 2,007 | 181·89 |
| Area of surface at full supply | Acres. | 811 | 448 | 650 | 2,617 | 609 | 1,125 | 3,100 | 22·18 sq. miles. |
| Gross area commanded | ,, | 1,931 | 1,700 | 2,700 | 1,707 | 2,500 | 4,900 | 13,890 | 1,200 |
| Culturable area commanded | ,, | 1,701 | 1,700 | 2,448 | 1,641 | .. | 4,250 | 12,500 | 1,200 |
| Area irrigable by complete project | ,, | 1,701 | 340 | 841 | 925 | .. | 1,000 | 12,500 | 1,200 |
| Area irrigable at present | ,, | 1,583 | 340 | 7,19·42 | 925 | .. | 1,000 | 12,500 | 1,086 |
| Sanctioned estimate— | | | | | | | | | |
| Direct charges | Rs. | 1,16,657 | 3,31,776 | 2,65,401 | 2,35,711 | 3,36,090 | 9,21,980 | 21,97,000 | 5,71,122 |
| Indirect charges | ,, | 4,001 | 14,824 | | 30,089 | 68,510 | 26,620 | 1,00,000 | 22,221 |
| Interest during construction | ,, | .. | .. | | .. | .. | .. | .. | .. |
| Total, Estimate | ,, | 1,20,658 | 3,46,600 | 2,65,401 | 2,65,800 | 4,04,600 | 9,48,600 | 22,97,000 | 5,93,343 |
| Expenditure to end of 1946–47— | | | | | | | | | |
| Direct charges | Rs. | 1,24,481 | 3,72,250 | 2,54,395 | 2,39,192 | 3,27,781 | 7,91,038 | 23,31,234 | 5,72,196 |
| Indirect charges | ,, | 4,859 | 12,671 | 11,096 | 30,515 | 11,495 | 13,448 | 97,695 | 12,020 |
| Interest during construction | ,, | .. | .. | 29,806 | .. | .. | .. | .. | .. |
| Total, Expenditure | ,, | 1,29,340 | 3,84,921 | 2,95,297 | 2,69,707 | 3,39,276 | 8,04,486 | 24,28,929 | 5,84,216 |
| Works completed to end of 1946–47— | | | | | | | | | |
| Dam (height completed) | Feet. | 22 | 31 | 20 | 15 | 40 | 27·5 | 71½ | 63 |
| Canals | Miles. | .. | 3¼ | 6⅝ | .. | .. | 6⅞ | .. | 5¼ |
| Distributaries | ,, | 7½ | .. | .. | 3⅞ | 1½ | 9 | 84 | ¼ |

**B-I.—Capital accounts of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1946–47.**

| Works or systems | | Direct charges (net expenditure). Works. | Establishment. | Tools and plant. | Suspense. | *Deduct* recoveries on capital account. | Total. | Indirect charges. | Total excluding interest. | Simple interest. |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) | | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| A. IRRIGATION WORKS. | | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| 1. PRODUCTIVE WORKS. | | | | | | | | | | |
| Cauvery delta system .. | To end of previous year. | 67,81,413 | 15,25,304 | 1,35,959 | — 1 | 14,793 | 84,27,882 | 2,73,049 | 87,00,931 | 1,21,05,353 |
| | During the year .. | 12,448 | 3,518 | 52 | .. | .. | 16,018 | 125 | 16,143 | 3,78,243 |
| Srivaikuntam anicut system. | To end of previous year. | 13,23,683 | 3,33,353 | 10,792 | .. | 369 | 16,67,459 | 1,07,604 | 17,75,063 | 41,94,762 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 75,036 |
| Godavari delta system. | To end of previous year. | 1,42,82,725 | 36,41,293 | 9,95,838 | .. | 10,206 | 1,89,09,650 | 20,87,362 | 2,09,97,012 | 3,93,64,457 |
| | During the year .. | 7,95,843 | 1,45,088 | 16,054 | .. | .. | 9,56,985 | 7,958 | 9,64,943 | 8,65,275 |
| Mehamattur anicut system. | To end of previous year. | 67,745 | 17,320 | 26 | .. | .. | 85,091 | 2,093 | 87,184 | 2,13,134 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 3,828 |
| Thadepalli channel .. | To end of previous year. | 1,36,531 | 29,836 | 16 | .. | .. | 1,66,383 | 11,063 | 1,77,446 | 4,15,448 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 7,487 |
| Kalingarayan channel. | To end of previous year. | 1,43,789 | 32,191 | .. | .. | .. | 1,75,980 | 4,506 | 1,80,486 | 3,49,991 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 7,919 |
| Vriddhachalam anicut. | To end of previous year. | 82,956 | 21,125 | 63 | .. | .. | 1,04,144 | 4,060 | 1,08,204 | 2,08,767 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 4,686 |
| Chembrambakkam anicut. | To end of previous year. | 5,14,255 | 1,28,958 | 8,249 | .. | 114 | 6,51,348 | 1,12,795 | 7,64,143 | 17,85,669 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 29,311 |
| Marudur anicut system. | To end of previous year. | 47,925 | 10,820 | — 24 | .. | .. | 58,721 | 1,401 | 60,122 | 1,23,832 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 2,642 |
| Pennar river canals system. | To end of previous year. | 48,66,770 | 10,35,929 | 1,45,075 | .. | 2,858 | 60,44,916 | 10,17,808 | 70,62,724 | 1,35,86,622 |
| | During the year .. | — 6,632 | 1,299 | .. | .. | .. | 7,931 | 66 | 7,997 | 2,71,933 |
| Arkenkota channel .. | To end of previous year. | 1,14,505 | 26,264 | .. | .. | .. | 1,40,769 | 3,676 | 1,44,445 | 3,59,305 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 6,335 |
| Tirukkoyilur anicut system. | To end of previous year. | 3,18,375 | 70,709 | 105 | .. | .. | 3,89,189 | 10,001 | 3,99,190 | 8,89,867 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 17,514 |
| Shattiatope anicut system. | To end of previous year. | 9,03,113 | 1,26,113 | 660 | .. | .. | 10,29,886 | 59,675 | 10,89,561 | 15,14,698 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 46,345 |
| Cheyyar anicut system. | To end of previous year. | 4,20,163 | 1,03,941 | 744 | .. | 50 | 5,24,798 | 15,201 | 5,39,999 | 11,81,182 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 23,616 |
| Cumbum tank system. | To end of previous year. | 68,701 | 15,284 | .. | .. | .. | 83,985 | 2,388 | 86,373 | 1,77,825 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 3,779 |
| Poiney anicut system .. | To end of previous year. | 2,34,263 | 60,576 | 267 | .. | .. | 2,95,106 | 8,812 | 3,03,918 | 7,49,031 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 13,280 |
| Periyar system .. | To end of previous year. | 80,28,303 | 16,90,738 | 7,66,897 | .. | 21,311 | 1,04,64,627 | 3,71,027 | 1,08,35,654 | 1,96,76,881 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 4,70,908 |
| Kistna delta system .. | To end of previous year. | 1,66,19,122 | 41,43,807 | 7,25,614 | .. | 43,984 | 2,14,44,559 | 12,43,973 | 2,26,88,532 | 3,99,08,583 |
| | During the year .. | 1,01,116 | 27,503 | 895 | .. | 358 | 1,29,126 | 1,011 | 1,30,137 | 9,65,050 |
| Nandiyar channel system. | To end of previous year. | 51,476 | 11,755 | .. | .. | .. | 63,231 | 2,484 | 65,715 | 1,13,079 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 2,845 |
| Chicacole minor river system. | To end of previous year. | 2,27,662 | 50,107 | 427 | .. | .. | 2,78,196 | 11,030 | 2,89,226 | 4,67,815 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 12,519 |
| Lower Coleroon anicut system. | To end of previous year. | 24,57,252 | 4,42,566 | 16,780 | .. | 3,175 | 29,13,423 | 88,246 | 30,01,669 | 48,12,582 |
| | During the year .. | .. | .. | .. | .. | .. | .. | .. | .. | 1,31,104 |
| Kistna East Bank canal extension scheme. | To end of previous year. | 43,19,131 | 8,36,665 | 6,89,043 | .. | 99,270 | 57,45,569 | 1,07,292 | 58,52,861 | 48,84,128 |
| | During the year .. | 2,072 | 564 | 18 | .. | .. | 2,654 | 21 | 2,675 | 2,57,995 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Polavaram island Project. | To end of previous year. | 12,95,660 | 3,70,367 | 14,462 | .. | 4,099 | 16,76,390 | 27,523 | 17,03,913 | 14,49,978 |
| | During the year .. | 456 | 83 | 9 | .. | .. | 548 | 4 | 552 | 75,422 |
| Cauvery-Mettur Project. | To end of previous year. | 5,95,08,508 | 61,48,691 | 2,91,243 | — 1 | 24,24,539 | 6,35,23,902 | 10,38,503 | 6,45,62,405 | 5,01,92,244 |
| | During the year.. .. | 1,76,760 | — 20,824 | 37 | — 16,278 | 44,954 | 94,741 | 1,768 | 96,509 | 28,60,248 |
| Kattalai scheme .. | To end of previous year. | 35,10,846 | 5,00,752 | 52,808 | 1 | 10,540 | 40,53,867 | 98,316 | 41,52,183 | 27,21,219 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1,82,263 |
| Total, A. Irrigation Works—1. Productive Works. | To end of previous year. | 12,60,97,210 | 2,13,24,357 | 38,54,617 | — 1 | 26,35,308 | 14,86,40,875 | 66,98,858 | 15,53,39,733 | 20,09,18,637 |
| | | 2,27,662 | 50,107 | 427 | .. | .. | 2,78,196 | 11,030 | 2,89,226 | 4,67,818 |
| | During the year.. .. | 10,95,327 | 1,57,231 | 17,035 | — 16,278 | 45,312 | 12,08,003 | 10,953 | 12,18,956 | 67,15.578 |

2. UNPRODUCTIVE WORKS.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Kurnool-Cuddapah canal. | To end of previous year. | 1,91,04,729 | 3,82,972 | 40,04,110 | .. | 2,44,283 | 2,33,27,528 | 73.554 | 2,34,01,082 | 5,40,98,456 |
| | During the year.. .. | 3,126 | 2,330 | 56 | .. | .. | 5,512 | 31 | 5,543 | 10,49,813 |
| Barur tank .. . | To end of previous year. | 3,42,788 | 78,506 | 6,961 | .. | 22 | 4,28,228 | 23,809 | 4,52,037 | 9,31,709 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 19,264 |
| Vallur anicut system .. | To end of previous year. | 60,662 | 13,679 | 25 | .. | .. | 74,366 | 1,916 | 76,282 | 2,00,759 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 3,346 |
| Madras water-supply and irrigation system. | To end of previous year. | 13,92,995 | 2,30,243 | 6,928 | .. | 1,302 | 16,28,864 | 2,40,054 | 18,68,918 | 45,43,996 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 73,299 |
| Pelandorai anicut system. | To end of previous year. | 5,20,637 | 1,17,426 | 6,037 | .. | 798 | 6,43,302 | 48,772 | 6,92,074 | 14,50,656 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 28,949 |
| Palar anicut system .. | To end of previous year. | 18,68,029 | 4,74,387 | 30,047 | .. | 672 | 23,71,791 | 1,17,484 | 24,89,275 | 63,20,042 |
| | During the year. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1,06,674 |
| Muniyeru system .. | To end of previous year. | 4,70,736 | 1,06,584 | 3,748 | .. | 1,732 | 5,79,336 | 30,265 | 6,09,601 | 10,29,655 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 26,064 |
| Dondapad tank .. | To end of previous year. | 1,05,848 | 18,945 | .. | .. | 7 | 1,24,786 | 15,218 | 1,40,004 | 2,41,274 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 5,615 |
| Yerur tank .. .. | To end of previous year. | 50,219 | 11,522 | .. | .. | .. | 61,741 | 1.612 | 63.353 | 92,463 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 2,778 |
| Sagileru system .. | To end of previous year. | 3,54,321 | 80,339 | 12,449 | .. | 1 | 4,47,108 | 17,619 | 4,64,727 | 8,33,410 |
| | Duri g the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 20,120 |
| Atmakur tank .. .. | To end of previous year. | 92,765 | 19,191 | 3 | .. | .. | 1,11,959 | 13,444 | 1.25,403 | 1,67,248 |
| | During the year.. .. | 2,227 | 606 | 19 | .. | .. | 2,852 | 22 | 2,874 | 5,095 |
| Jangamaheswarapuram tank. | To end of previous year. | 52,564 | 8,689 | .. | .. | .. | 61,253 | 10,411 | 71,664 | 94,326 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 2,756 |
| Anamasamudram Beraperu tank. | To end of previous year. | 58,421 | 13,266 | .. | .. | .. | 71,687 | 1.886 | 73,573 | 1,01,711 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 3,226 |
| Hajipuram tank .. | To end of previous year. | 2,30,686 | 48,308 | .. | .. | 220 | 2,78,774 | 33,109 | 3,11,883 | 4,09,562 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 12,545 |
| Ponnalur tank .. .. | To end of previous year. | 1,61,263 | 31,658 | 54 | .. | .. | 1,92,974 | 25,674 | 2,18,649 | 2,89,169 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 8,684 |
| Markapur tank .. | To end of previous year. | 1,01,374 | 23,066 | 41 | .. | .. | 1,24,481 | 4,859 | 1,29,340 | 1,68,548 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 5,602 |
| Nagavalli river system. | To end of previous year. | 13,75,618 | 2,90,458 | 93,843 | .. | 5,308 | 17,54,611 | 44,632 | 17,99,243 | 23 08,588 |
| | During the year.. .. | 2.259 | 412 | 46 | .. | .. | 2,717 | 28 | 2.740 | 78,905 |
| Venkatapuram tank .. | To end of previous year. | 3,03,994 | 64,539 | 4,236 | .. | 519 | 3,72,250 | 12,671 | 3,84,921 | 4,67.130 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 16,751 |
| Bhavanasi tank .. | To end of previous year. | 1,85,879 | 43,103 | 25,710 | .. | 297 | 2,54,395 | 11,096 | 2,65,491 | 3,12,152 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 11,448 |
| Yellanur tank .. .. | To end of previous year. | 1,91,292 | 41,156 | 7,087 | .. | 343 | 2,39,192 | 30,515 | 2,69,707 | 3,06,090 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 10,764 |
| Panjapatti reservoir project. | To end of previous year. | 2,24,998 | 43,411 | 60,075 | .. | 703 | 3,27,781 | 11,495 | 3,39,276 | 3,95,150 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 14,750 |

## B-I.—Capital accounts of irrigation, navigation, mebankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1946-47—*cont.*

| Works or systems. | | Direct charges (net expenditure). Works. | Establishment. | Tools and plant. | Suspense. | *Deduct* recoveries on capital account. | Total. | Indirect charges. | Total excluding interest. | Simple interest. |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) | | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| A. IRRIGATION WORKS—*cont.* | | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | | | |
| Siddapur tank .. .. | To end of previous year. | 5,22,751 | 96,255 | 1,72,474 | .. | 442 | 7,91,038 | 13,448 | 8,04,486 | 9,48,920 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 35,597 |
| Nagavaram anicut and supply channel. | To end of previous year. | 88,757 | 18,538 | .. | .. | .. | 1,07,295 | 2,595 | 1,09,890 | 1,28,597 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 4,828 |
| Mopad reservoir system. | To end of previous year. | 17,93,337 | 3,30,773 | 2,34,395 | .. | 27,894 | 23,30,611 | 97,690 | 24,28,301 | 28,10,919 |
| | During the year.. .. | 520 | 103 | .. | .. | .. | 623 | 5 | 628 | 1,04,548 |
| Kaniampalayam anicut. | To end of previous year. | 97,391 | 27,035 | 495 | .. | 17,700 | 1,07,221 | 3,853 | 1,11,074 | 1,50,168 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 4,825 |
| Toludur reservoir project. | To end of previous year. | 15,99,590 | 4,75,288 | 3,05,960 | .. | 9,815 | 23,71,023 | 2,51,758 | 26,22,781 | 29,10,350 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1,06,652 |
| Tippayapalem project. | To end of previous year. | 4,41,041 | 1,30,844 | 967 | .. | 656 | 5,72,196 | 12,020 | 5,84,216 | 3,06,724 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 25,480 |
| Basavannah channel .. | To end of previous year. | 4,68,839 | 1,12,166 | 2,197 | .. | .. | 5,83,202 | 6,578 | 5,89,780 | 4,72,038 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 26,230 |
| Duvvaleru project .. | To end of previous year. | 1,01,215 | 44,793 | 225 | .. | .. | 1,46,233 | 1,058 | 1,47,291 | 38,573 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 6,595 |
| Uduthorahalli Scheme. | To end of previous year. | 1,11,202 | 38,320 | 1,548 | .. | .. | 1,51,070 | 1,113 | 1,52,183 | 9,610 |
| | During the year.. .. | 3,163 | 1,140 | .. | .. | .. | 4,303 | 31 | 4,334 | 6,505 |
| Mahadevapuram tank Project. | To end of previous year. | 10,131 | 4,138 | 55 | .. | .. | 14,324 | 101 | 14,425 | 1,304 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 609 |
| Tungabhadra Project .. | To end of previous year. | 8,31,054 | 3,74,761 | 68,225 | 1,057 | 3,585 | 12,71,512 | 8,311 | 12,79,823 | 28,813 |
| | During the year.. .. | 44,65,048 | 7,35,429 | 76,712 | — 1,42,176 | 25,450 | 51,09,563 | 54,176 | 51,63,739 | 1,54,505 |
| Kistna Delta Romperu drain scheme. | To end of previous year. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | During the year.. .. | 2,34,450 | 25,103 | .. | .. | .. | 2,59,553 | 2,345 | 2,61,898 | 5,097 |
| Lower Bhavani Project. | To end of prevous year. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | During the year.. .. | .. | 2,045 | .. | .. | .. | 2,045 | .. | 2,045 | 41 |
| Total, A. Irrigation Works—2. Unproductive Works. | To end of previous year. | 3,33,15,121 | 37,94,359 | 51,27,895 | 1,057 | 3,16,299 | 4,19,22,133 | 11,68,620 | 4,30,90,753 | 8,25,68,110 |
| | During the year.. .. | 47,10,793 | 7,67,168 | 76,833 | — 1,42,176 | 25,450 | 53,87,168 | 56,633 | 54,43,801 | 19,87,960 |
| Total, A. Irrigation Works. | To end of previous year. | 15,96,39,993 | 2,51,68,823 | 89,82,939 | 1,056 | 29,51,607 | 19,08,41,204 | 78,73,508 | 19,87,19,712 | 28,39,54,562 |
| | During the year.. .. | 58,06,120 | 9,24,399 | 93,868 | — 1,58,454 | 70,762 | 65,95,171 | 67,586 | 66,62,757 | 87,03,538 |
| B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS. | | | | | | | | | | |
| 2. UNPRODUCTIVE WORKS. | | | | | | | | | | |
| Vedaranniyam canal .. | To end of previous year. | 1,07,885 | 24,814 | .. | .. | .. | 1,32,699 | 3,733 | 1,36,432 | 3,97,881 |
| | During the year.. .. | .. | .. | .. | .. | .. | .. | .. | .. | 5,971 |
| Buckingham canal .. | To end of previous year. | 72,65,660 | 16,71,369 | 1,81,691 | .. | 24,365 | 90,94,355 | 4,93,907 | 95,88,262 | 2,11,79,120 |
| | During the year.. .. | — 13,654 | — 2,673 | — 1 | .. | .. | — 16,328 | — 137 | — 16,465 | 4,08,534 |
| Total, B. Navigation, etc., Works—2. Unproductive Works. | To end of previous year. | 73,73,545 | 16,96,183 | 1,81,691 | .. | 24,365 | 92,27,054 | 4,97,640 | 97,24,694 | 2,15,77,001 |
| | During the year.. .. | — 13,654 | — 2,673 | — 1 | .. | .. | — 16,328 | — 137 | — 16,465 | 4,14,505 |
| Total, B. Navigation, etc., Works. | To end of previous year. | 73,73,545 | 16,96,183 | 1,81,691 | .. | 24,365 | 92,27,054 | 4,97,640 | 97,24,694 | 2,15,77,001 |
| | During the year.. .. | — 13,654 | — 2,673 | — 1 | .. | .. | — 16,328 | — 137 | — 16,465 | 4,14,505 |
| Total, Construction of irrigation, etc., Works. | To end of previous year. | 16,70,13,538 | 2,68,65,006 | 91,64,630 | 1,056 | 29,75,972 | 20,00,68,258 | 83,76,148 | 20,84,44,406 | 30,55,31,563 |
| | During the year .. | 57,92,466 | 9,21,726 | 93,867 | — 1,58,454 | 70,787 | 65,78,843 | 67,449 | 66,46,292 | 91,18,043 |

**C-I.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47.**

| Works or systems. | Revenue (actual receipts). | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Irrigation. | | | | | | | | | | |
| | Irrigation revenue. | Share of land revenue. | Total. | Navigation. | Plantation. | Miscellaneous. | Total. | Less refunds of revenue. | Gross revenue less refunds. | *Deduct* Share of old irrigation revenue. | Total revenue due to improvements. |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| A. IRRIGATION WORKS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| 1. PRODUCTIVE WORKS. | | | | | | | | | | | |
| 1 Cauvery delta system | 52,53,038 | 1,65,294 | 54,18,332 | 8,239 | 15,199 | 19,637 | 43,075 | 514 | 54,60,893 | 38,09,402 | 16,51,491 |
| 2 Srivaikuntam anicut system | 2,31,744 | 1,490 | 2,33,234 | .. | 2,688 | 30,680 | 33,368 | 83 | 2,66,519 | 79,000 | 1,87,519 |
| 3 Godavari delta system | 55,77,948 | 2,30,733 | 58,07,981 | 4,01,908 | 3,677 | 82,280 | 4,87,865 | 726 | 62,95,120 | 1,24,000 | 61,71,120 |
| 4 Mehamattur anicut system | 27,822 | 196 | 28,018 | .. | 188 | 1,562 | 1,750 | 1 | 29,767 | 4,000 | 25,767 |
| 5 Thadapalli channel system | 1,75,475 | 2,929 | 1,78,404 | .. | 2,893 | 102 | 2,995 | 2 | 1,81,397 | 76,000 | 1,05 397 |
| 6 Kalingarayan channel system | 1,32,424 | 483 | 1,32,907 | . | 4,424 | 916 | 5,340 | 205 | 1,38,042 | 85,000 | 5,042 |
| 7 Vriddhachalam anicut system | 46,079 | 339 | 46,418 | .. | 1,024 | 56 | 1,080 | .. | 47,498 | 8,500 | 38,998 |
| 8 Chembarambakkam tank system | 60,293 | 957 | 61,250 | .. | .. | 143 | 143 | .. | 61,393 | 16,000 | 45,393 |
| 9 Marudur anicut system | 2,10,782 | 279 | 2,11,061 | .. | 195 | 9,382 | 9,577 | 200 | 2,20,438 | 1,15,000 | 1,05,438 |
| 10 Pennar river canals system | 9,38,947 | 73,367 | 10,12,314 | 632 | 613 | 3,534 | 4,779 | 45 | 10,17,048 | 2,56,000 | 7,61,048 |
| 11 Arkenkota channel system | 48,845 | 428 | 49,273 | .. | 1,174 | 378 | 1,552 | .. | 50,825 | 19,000 | 31,825 |
| 12 Tirukkoyilur anicut system | 1,36,982 | 3,369 | 1,40,351 | .. | 966 | 297 | 1,263 | 10 | 1,41,604 | 60,000 | 81,604 |
| 13 Shatiatope anicut system | 1,71,460 | 17,031 | 1,88,491 | 22 | 634 | 512 | 1,168 | 70 | 1,89,589 | 20,000 | 1,69,589 |
| 14 Cheyyar anicut system | 1,16,630 | 4,735 | 1,21,365 | .. | 198 | 122 | 320 | .. | 1,21,685 | 39,000 | 82,685 |
| 15 Cumbum tank system | 42,935 | 472 | 43,407 | .. | .. | .. | .. | .. | 43,407 | 30,000 | 13,407 |
| 16 Poiney anicut system | 1,20,206 | 5,488 | 1,25,694 | .. | 115 | 311 | 426 | .. | 1,26,120 | 38,100 | 88,020 |
| 17 Periyar system | 10,77,961 | 94,863 | 11,72,824 | 152 | 3,249 | 14,776 | 18,177 | 555 | 11,90,446 | 2,04,000 | 9,86,446 |
| 18 Kistna delta system | 54,26,020 | 1,92,210 | 56,18,230 | 2,01,005 | 7,516 | 1,05,139 | 3,13,460 | 10,430 | 59,21,260 | 71,000 | 58,50,260 |
| 19 Nandiyar channel system | 33,297 | 250 | 33,547 | 126 | 741 | 556 | 1,423 | 59 | 34,911 | 17,000 | 17,911 |
| 20 Chicacole minor river system | 1,89,634 | 7,874 | 1,97,508 | .. | .. | 197 | 197 | .. | 1,97,705 | 95,000 | 1,02,705 |
| 21 Lower Coleroon anicut system | 5,97,461 | 51,549 | 6,49,010 | 254 | 5,225 | 5,355 | 10,834 | 125 | 6,59,719 | 1,55,000 | 5,04,719 |
| 22 Kistna East Bank canal extension scheme. | 5,95,300 | 87,205 | 6,82,505 | 2,509 | .. | 10,730 | 13,239 | 446 | 6,95,298 | 20,300 | 6,74,998 |
| 23 Polavaram Island Project | 1,75,096 | .. | 1,75,096 | 21 | 420 | 1,022 | 1,463 | .. | 1,76,559 | .. | 1,76,559 |
| 24 Cauvery-Mettur Project | 16,04,076 | 30,231 | 16,34,307 | 3 | 8,636 | 1,05,664 | 1,14,301 | 5,570 | 17,43,038 | 99,971 | 16,43,067 |
| 25 Kattalai scheme | 4,41,436 | 121 | 4,41,557 | 116 | 9,883 | 1,878 | 11,877 | 140 | 4,53,294 | 2,54,000 | 1,99,294 |
| Total, A. Irrigation Works—1. Productive Works. | 2,34,31,191 | 9,71,893 | 2,44,03,084 | 6,14,987 | 69,456 | 3,95,229 | 10,79,672 | 19,181 | 2,54,63,575 | 56,95,273 | 1,97,68,302 |
| 2. UNPRODUCTIVE WORKS. | | | | | | | | | | | |
| 1 Kurnool-Cuddapah canal | 4,03,699 | 3,277 | 4,06,976 | 167 | 3,014 | 7,953 | 11,134 | 118 | 4,17,992 | 35,872 | 3,82,120 |
| 2 Barur tank | 25,543 | 787 | 26,330 | .. | 3,781 | 286 | 4,067 | 13 | 30,384 | 5,900 | 24,484 |
| 3 Vallur anicut | 4,741 | 1,074 | 5,815 | .. | .. | 173 | 173 | .. | 5,988 | 5,000 | 988 |
| 4 Madras Water-supply and Irrigation system. | 25,559 | 462 | 26,021 | .. | .. | 45,874 | 45,874 | .. | 71,895 | 11,000 | 60,895 |
| 5 Pelandurai anicut system | 65,504 | 86 | 65,590 | .. | 1,599 | 278 | 1,977 | 48 | 61,519 | 3,000 | 64,519 |
| 6 Palar anicut system | 3,68,488 | 16,852 | 3,85,340 | .. | 612 | 5,440 | 6,052 | 8 | 3,91,384 | 1,25,000 | 2,66,384 |
| 7 Muniyeru anicut system | 52,321 | 62 | 52,383 | .. | .. | 1,695 | 1,695 | .. | 54,078 | 2,500 | 51,578 |
| 8 Dondapad tank | 2,540 | 10 | 2,550 | .. | .. | .. | .. | .. | 2,550 | .. | 2,550 |
| 9 Yerur tank | 3,861 | 86 | 3,947 | .. | .. | .. | .. | .. | 3,947 | 425 | 3522 |

C-I.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47—*cont.*

| Works or systems | Revenue (actual receipts). Irrigation. Irrigation revenue. | Share of land revenue. | Total. | Navigation. | Plantation. | Miscellaneous. | Total. | Less refunds of revenue. | Gross revenue less refunds. | *Deduct* share of old irrigation revenue. | Total revenue due to improvements. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| A. IRRIGATION WORKS—*cont.* | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | | | | |
| 10 Sagileru system | 25,597 | 26 | 25,623 | .. | 3 | 150 | 153 | .. | 25,776 | 17,800 | 7,976 |
| 11 Atmakur tank | 2,220 | .. | 2,220 | .. | .. | 72 | 72 | .. | 2,292 | .. | 2,292 |
| 12 Jangamaheswarapuram tank | 994 | .. | 994 | .. | .. | 241 | 241 | .. | 1,235 | 500 | 735 |
| 13 Anamasamudram-Beeraperu tank | 4,716 | 1 | 4,717 | .. | .. | .. | .. | .. | 4,717 | 3,600 | 1,117 |
| 14 Hajipuram tank | 4,853 | 70 | 4,923 | .. | .. | .. | .. | .. | 4,923 | .. | 4,923 |
| 15 Ponnalur tank | 4,384 | .. | 4,384 | .. | .. | .. | .. | .. | 4,384 | .. | 4,384 |
| 16 Markapur tank | 11,073 | 1 | 11,074 | .. | .. | 16 | 16 | .. | 11,090 | 2,130 | 8,960 |
| 17 Nagavalli river system | 1,15,744 | 21,804 | 1,37,548 | .. | .. | 430 | 430 | .. | 1,37,978 | 37,400 | 1,00,578 |
| 18 Venkatapuram tank | 4,504 | .. | 4,504 | .. | .. | .. | .. | .. | 4,504 | .. | 4,504 |
| 19 Bavanasi tank | 7,200 | .. | 7,200 | .. | 13 | .. | 13 | .. | 7,213 | .. | 7,213 |
| 20 Yellanur tank | 1,975 | 1,104 | 3,079 | .. | .. | .. | .. | .. | 3,079 | .. | 3,079 |
| 21 Panjapatti reservoir project | .. | .. | .. | .. | .. | 100 | 100 | .. | 100 | .. | 100 |
| 22 Siddapur tank | 6,897 | .. | 6,897 | .. | .. | 52 | 52 | .. | 6,949 | .. | 6,949 |
| 23 Nagavaram anicut and supply channel | 2,844 | 1,017 | 3,861 | .. | .. | 7 | 7 | .. | 3,868 | 2,256 | 1,612 |
| 24 Mopad reservoir system | 32,156 | 5,170 | 37,326 | .. | .. | 161 | 161 | .. | 37,487 | 433 | 37,054 |
| 25 Kanniyampalaiyam anicut | 2,574 | .. | 2,574 | .. | .. | .. | .. | .. | 2,574 | .. | 2,574 |
| 26 Toludur reservoir project | 1,38,614 | 448 | 1,39,062 | .. | 1,444 | 685 | 2,129 | .. | 1,41,191 | 10,590 | 1,30,601 |
| 27 Thippayapalem project | 6,636 | .. | 6,636 | .. | .. | .. | .. | .. | 6,636 | .. | 6,636 |
| 28 Basavanna channel | 99,169 | .. | 99,169 | .. | 9 | .. | 9 | .. | 99,178 | .. | 99,178 |
| 29 Duvvaleru project | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 30 Uduthorahalla scheme | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 31 Mahadevapuram tank project | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 32 Tungabhadra project | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 33 Kistna delta system—Romperu drain | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 34 Lower Bhavani project | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total, A. Irrigation Works—2. Unproductive Works. | 14,24,406 | 52,337 | 14,76,743 | 167 | 10,575 | 63,613 | 74,355 | 187 | 15,50,911 | 2,63,406 | 12,87,505 |
| Total, A. Irrigation, etc., Works | 2,48,55,597 | 10,24,230 | 2,58,79,827 | 6,15,154 | 80,031 | 4,58,842 | 11,54,027 | 19,368 | 2,70,14,486 | 59,58,679 | 2,10,55,807 |
| B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS. | | | | | | | | | | | |
| 2. UNPRODUCTIVE WORKS. | | | | | | | | | | | |
| 1 Vedaranniyam canal | .. | .. | .. | 1,033 | 21 | .. | 1,054 | .. | 1,054 | .. | 1,054 |
| 2 Buckingham canal | .. | .. | .. | 1,30,761 | 1,225 | 14,213 | 1,46,199 | 60 | 1,46,139 | .. | 1,46,139 |
| Total, B. Navigation, etc., Works—2. Unproductive Works. | .. | .. | .. | 1,31,794 | 1,246 | 14,213 | 1,47,253 | 60 | 1,47,193 | .. | 1,47,193 |
| Total, Construction of Irrigation, etc., Works. | 2,48,55,597 | 10,24,230 | 2,58,79,827 | 7,46,948 | 81,277 | 4,73,055 | 13,01,280 | 19,428 | 2,71,61,679 | 59,58,679 | 2,12,03,000 |

C-I.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47—*cont.*

| Works or systems. | Working expenses—Revenue management. | | | | Working expenses. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Maintenance and repairs. | | | | | | | |
| | Direction. | Establishment. Execution. | Establishment. Civil officers. | Total Revenue management. | Establishment. Direction. | Establishment. Execution. | Establishment. Total. | Extensions and improvements. | Maintenance and repairs. | Tools and plant. | *Deduct* recoveries on revenue account. | Total cost of maintenance. |
| | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) |
| | | | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | | RS. |
| **A. IRRIGATION WORKS—*cont.*** | | | | | | | | | | | | |
| **1. PRODUCTIVE WORKS—*cont.*** | | | | | | | | | | | | |
| 1 Cauvery delta system | .. | .. | 2,69,200 | 2,69,200 | 91,517 | 366,067 | 4,57,584 | 1,12,387 | 10,46,386 | 4,876 | .. | 18,90,433 |
| 2 Srivaikuntam anicut system | .. | .. | 7,712 | 7,712 | 6,246 | 24,982 | 31,228 | 484 | 56,417 | 503 | .. | 96,344 |
| 3 Godavari delta system | .. | .. | 2,82,282 | 2,82,282 | 80,293 | 3,21,171 | 4,01,464 | 41,335 | 14,00,639 | 29,087 | .. | 21,54,807 |
| 4 Mehamattu anicut system | .. | .. | 1,197 | 1,197 | 615 | 2,459 | 3,074 | 3 | 8,725 | 37 | .. | 13,036 |
| 5 Thadapalli channel system | .. | .. | 5,120 | 5,120 | 1,741 | 6,962 | 8,703 | 11 | 20,000 | — 3 | .. | 33,831 |
| 6 Kalingarayan channel system | .. | .. | 2,395 | 2,395 | 1,324 | 5,297 | 6,621 | .. | 15,578 | — 2 | .. | 24,592 |
| 7 Vriddhachalam anicut system | .. | .. | 1,895 | 1,895 | 890 | 3,561 | 4,451 | 2,211 | 9,787 | 51 | .. | 18,395 |
| 8 Chembarambakkam tank system | .. | .. | 2,263 | 2,263 | 716 | 2,865 | 3,581 | 152 | 13,404 | .. | .. | 19,400 |
| 9 Marudur anicut system | .. | .. | 4,803 | 4,803 | 1,435 | 5,741 | 7,176 | . | 11,106 | 99 | .. | 23,184 |
| 10 Ponnar river canals system | .. | .. | 36,648 | 36,648 | 13,371 | 53,482 | 66,853 | 1,446 | 2,73,461 | 11 | .. | 3,78,419 |
| 11 Arkenkota channel system | .. | .. | 1,514 | 1,514 | 597 | 2,389 | 2,986 | .. | 7,231 | — 1 | .. | 11,730 |
| 12 Tirukkoyilur anicut system | .. | .. | 4,018 | 4,018 | 3,224 | 12,895 | 16,119 | 3,607 | 43,626 | 199 | .. | 67,569 |
| 13 Shatiatope anicut system | .. | .. | 8,425 | 8,425 | 3,479 | 13,917 | 17,396 | 2,371 | 42,309 | 188 | .. | 70,689 |
| 14 Cheyyar anicut system | .. | .. | 4,047 | 4,047 | 4,065 | 16,262 | 20,327 | 774 | 49,997 | — 6 | .. | 75,139 |
| 15 Cumbum tank system | .. | .. | 669 | 669 | 433 | 1,731 | 2,164 | .. | 2,639 | 47 | .. | 5,519 |
| 16 Poiney anicut system | .. | .. | 4,377 | 4,377 | 3,917 | 15,670 | 19,587 | 427 | 48,526 | — 6 | .. | 72,911 |
| 17 Periyar system | .. | .. | 44,715 | 44,715 | 23,731 | 94,926 | 1,18,657 | 6,531 | 1,99,576 | 1,824 | .. | 3,71,303 |
| 18 Kistna delta system | .. | .. | 2,73,673 | 2,73,673 | 99,610 | 3,98,440 | 4,98,050 | 1,67,691 | 11,90,003 | 11,625 | .. | 21,41,042 |
| 19 Nandiyar channel system | .. | .. | 819 | 819 | 981 | 3,923 | 4,904 | 2,313 | 13,253 | 65 | .. | 21,354 |
| 20 Chicacole minor river system | .. | .. | 5,122 | 5,122 | 2,911 | 11,642 | 14,553 | 5,846 | 47,392 | 1,074 | .. | 73,987 |
| 21 Lower Coleroon anicut system | .. | .. | 24,699 | 24,699 | 11,077 | 44,308 | 55,385 | 296 | 1,56,374 | 660 | .. | 2,37,414 |
| 22 Kistna East Bank canal extension scheme. | .. | .. | 29,617 | 29,617 | 9,798 | 39,191 | 48,989 | 4,525 | 1,31,566 | 1,165 | .. | 2,15,862 |
| 23 Polavaram Island project | .. | .. | 8,755 | 8,755 | 2,742 | 10,968 | 13,710 | 2,077 | 56,351 | 1,179 | .. | 82,072 |
| 24 Cauvery-Mettur Project | .. | .. | 75,386 | 75,386 | 29,747 | 1,18,990 | 1,48,737 | 40,350 | 3,88,646 | 1,530 | .. | 6,54,649 |
| 25 Kattalai scheme | .. | .. | 9,373 | 9,373 | 4,993 | 19,973 | 24,966 | — 313 | 71,638 | 300 | .. | 1,05,964 |
| Total, A. Irrigation Works—1. Productive Works. | .. | .. | 11,08,724 | 11,08,724 | 3,99,453 | 15,97,812 | 19,97,265 | 3,94,524 | 53,04,630 | 54,502 | .. | 88,59,645 |
| **2. UNPRODUCTIVE WORKS—*cont.*** | | | | | | | | | | | | |
| 1 Kurnool-Cuddapah canal | .. | .. | 18,526 | 18,526 | 19,280 | 77,121 | 96,401 | 1,467 | 1,11,777 | 2,035 | .. | 2,30,206 |
| 2 Barur tank | .. | .. | 991 | 991 | 492 | 1,967 | 2,459 | .. | 5,523 | — 1 | .. | 8,972 |
| 3 Vallur anicut | .. | .. | 40 | 40 | 342 | 1,369 | 1,711 | 57 | 7,604 | .. | .. | 9,412 |
| 4 Madras Water-supply and Irrigation system. | .. | .. | 751 | 751 | 1,044 | 4,177 | 5,221 | 3,280 | 20,489 | 1 | .. | 29,742 |
| 5 Pelandurai anicut system | .. | .. | 3,129 | 3,129 | 1,583 | 6,333 | 7,916 | 407 | 21,469 | 92 | .. | 33,013 |
| 6 Palar anicut system | .. | .. | 12,966 | 12,966 | 19,434 | 77,736 | 97,170 | 9,114 | 2,60,640 | — 28 | .. | 3,79,862 |
| 7 Muniyeru anicut system | .. | .. | 2,494 | 2,494 | 921 | 3,685 | 4,606 | 301 | 12,089 | 106 | .. | 19,596 |
| 8 Dondapad tank | .. | .. | 127 | 127 | 308 | 1,232 | 1,540 | 4,896 | 517 | 46 | .. | 7,126 |
| 9 Yerur tank | .. | .. | 176 | 176 | 147 | 588 | 735 | .. | 2,949 | .. | .. | 3,860 |

**C-I.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946-47—*cont.***

| Works or systems. | Working expenses—Revenue management—*cont.* | | | | Working expenses—*cont.* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Maintenance and repairs—*cont.* | | | | | | | |
| | | | | | Establishment—*cont.* | | | | | | | |
| | Direction. | Execution. | Civil officers. | Total Revenue management. | Direction. | Execution. | Total. | Extensions and improvements. | Maintenance and repairs. | Tools and plant. | *Deduct* recoveries on revenue account. | Total cost of maintenance. |
| | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) |
| | | | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | | RS. |
| A. IRRIGATION WORKS—*cont.* | | | | | | | | | | | | |
| 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | | | | | |
| 10 Sagileru system | .. | .. | 391 | 391 | 754 | 3,013 | 3,767 | .. | 4,994 | 90 | .. | 9,242 |
| 11 Atmakur tank | .. | .. | 111 | 111 | 158 | 632 | 790 | .. | 2,648 | 23 | .. | 3,572 |
| 12 Jangamaheswarapuram tank | .. | .. | 25 | 25 | 14 | 58 | 72 | .. | 193 | 2 | .. | 292 |
| 13 Anamasamudram Beeraperu tank | .. | .. | 56 | 56 | 28 | 114 | 142 | .. | 723 | .. | .. | 921 |
| 14 Hajipuram tank | .. | .. | 245 | 245 | 56 | 225 | 281 | .. | 496 | .. | .. | 1,022 |
| 15 Ponnalur tank | .. | .. | 219 | 219 | 60 | 242 | 302 | .. | 748 | .. | .. | 1,269 |
| 16 Markapur tank | .. | .. | 447 | 447 | 559 | 2,233 | 2,792 | .. | 3,495 | 62 | .. | 6,796 |
| 17 Nagavalli river system | .. | .. | 4,205 | 4,205 | 2,058 | 8,232 | 10,290 | 3,300 | 43,439 | 943 | .. | 62,177 |
| 18 Venkatapuram tank | .. | .. | 225 | 225 | 148 | 592 | 740 | .. | 925 | 17 | .. | 1,907 |
| 19 Bavanasi tank | .. | .. | 360 | 360 | 268 | 1,073 | 1,341 | 1,404 | 3,195 | 39 | .. | 6,339 |
| 20 Yellanur tank | .. | .. | 129 | 129 | 88 | 353 | 441 | .. | 491 | 9 | .. | 1,070 |
| 21 Panjapatti reservoir project | .. | .. | .. | .. | 98 | 389 | 487 | 84 | 894 | 9 | .. | 1,474 |
| 22 Siddapur tank | .. | .. | 345 | 345 | 228 | 910 | 1,138 | .. | 1,365 | 24 | .. | 2,872 |
| 23 Nagavaram anicut and supply channel | .. | .. | 37 | 37 | 277 | 1,107 | 1,384 | .. | 1,796 | 32 | .. | 3,249 |
| 24 Mopad reservoir system | .. | .. | 1,619 | 1,619 | 831 | 3,325 | 4,156 | 17 | 16,347 | 1 | .. | 22,140 |
| 25 Kanniyampalaiyam anicut | .. | .. | 128 | 128 | 67 | 268 | 335 | .. | 785 | .. | .. | 1,248 |
| 26 Toludur reservoir project | .. | .. | 6,424 | 6,424 | 2,828 | 11,309 | 14,137 | 1,549 | 36,830 | 161 | .. | 59,101 |
| 27 Thippayapalem project | .. | .. | 332 | 332 | 183 | 730 | 913 | .. | 1,085 | 20 | .. | 2,350 |
| 28 Basavanna channel | .. | .. | 4,958 | 4,958 | 1,158 | 4,633 | 5,791 | .. | 6,799 | 122 | .. | 17,670 |
| 29 Duvvaleru project | .. | .. | .. | .. | 207 | 827 | 1,034 | 72 | 1,316 | 25 | .. | 2,447 |
| 30 Uduthorahalla scheme | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 31 Mahadevapuram tank project | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 32 Tungabhadra project | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 33 Kistna Delta system—Ramperu drain | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 34 Lower Bhavani project | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total, A. Irrigation Works—2. Unproductive Works. | .. | .. | 59,456 | 59,456 | 53,619 | 2,14,473 | 2,68,092 | 25,948 | 5,71,621 | 3,330 | .. | 9,28,947 |
| Total, A. Irrigation, etc., Works | .. | .. | 11,68,180 | 11,68,180 | 4,53,072 | 18,12,285 | 22,65,357 | 4,20,472 | 58,76,251 | 58,332 | .. | 67,88,592 |
| B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS. | | | | | | | | | | | | |
| 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | | | | | |
| 1 Vedaranniyam canal | .. | .. | .. | .. | 655 | 2,622 | 3,277 | .. | 11,594 | 48 | .. | 14,919 |
| 2 Buckingham canal | .. | .. | .. | .. | 23,426 | 93,703 | 1,17,129 | 5,506 | 5,92,745 | 24 | .. | 7,15,404 |
| Total, B. Navigation, etc., Works—2. Unproductive Works. | .. | .. | .. | .. | 24,081 | 96,325 | 1,20,406 | 5,506 | 6,04,339 | 72 | .. | 7,30,323 |
| Total, Construction of Irrigation, etc., Works. | .. | .. | 11,68,180 | 11,68,180. | 4,77,153 | 19,08,610 | 23,85,763 | 4,25,978 | 64,80,590 | 58,404 | .. | 1,05,18,915 |

C-I.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47—*cont.*

| Works or systems. | Working expenses—*cont.* | | | | | | Net revenue. | |
|---|---|---|---|---|---|---|---|---|
| | Indirect charges. | Grand total of working expenses. | *Deduct* old maintenance charges. | | | Total working expenses on improvements. | Total. | Due to improvements |
| | | | Direct charges. | Indirect charges. | Total. | | | |
| | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) |
| | RS. | RS. | RS | RS | RS. | RS. | RS. | RS |
| A. IRRIGATION WORKS—*cont.* | | | | | | | | |
| 1. PRODUCTIVE WORKS—*cont.* | | | | | | | | |
| 1 Cauvery delta system | 11,588 | 19,02,021 | 13,29,381 | 8,147 | 13,37,528 | 5,64,493 | 35,58,872 | 10,86,998 |
| 2 Srivaikuntam anicut system | 569 | 96,913 | 8,382 | 55 | 8,437 | 88,476 | 1,69,606 | 99,043 |
| 3 Godavari delta system | 14,420 | 21,69,227 | .. | .. | .. | 21,69,227 | 41,25,893 | 40,01,893 |
| 4 Mehamattur anicut system | 87 | 13,123 | 818 | 6 | 824 | 12,299 | 16,644 | 13,468 |
| 5 Thadapalli channel system | 200 | 34,031 | 4,854 | 36 | 4,890 | 29,141 | 1,47,566 | 76,256 |
| 6 Kalingarayan channel system | 156 | 24,748 | 5,429 | 40 | 5,469 | 19,279 | 1,13,294 | 33,763 |
| 7 Vriddhachalam anicut system | 120 | 18,515 | .. | .. | .. | 18,515 | 28,983 | 20,483 |
| 8 Chembrambakkam tank system | 136 | 19,586 | 6,434 | 54 | 6,488 | 13,048 | 41,857 | 32,345 |
| 9 Marudu anicut system | 111 | 23,295 | 7,086 | 47 | 7,133 | 16,162 | 1,97,143 | 89,276 |
| 10 Pennar river canals system | 2,749 | 3,81,168 | 35,459 | 297 | 35,756 | 3,45,412 | 6,35,880 | 4,15,636 |
| 11 Arkenkota channel system | 73 | 11,803 | 1,215 | 9 | 1,224 | 10,579 | 39,022 | 21,246 |
| 12 Tirukkoyilur anicut system | 472 | 68,041 | 6,347 | 49 | 6,396 | 61,645 | 73,563 | 19,959 |
| 13 Shatiatope anicut system | 447 | 71,136 | 2,116 | 17 | 2,133 | 69,003 | 1,18,453 | 1,00,586 |
| 14 Cheyyar anicut system | 508 | 75,647 | 4,361 | 32 | 4,393 | 71,254 | 46,038 | 11,431 |
| 15 Cumbum tank system | 26 | 5,545 | 1,398 | 8 | 1,406 | 4,139 | 37,862 | 9,268 |
| 16 Poiney anicut system | 489 | 73,400 | 4,263 | 31 | 4,294 | 69,106 | 52,720 | 18,914 |
| 17 Periyar system | 2,061 | 3,73,364 | 39,042 | 259 | 39,301 | 3,34,063 | 8,17,082 | 6,52,383 |
| 18 Kistna delta system | 13,577 | 21,54,619 | .. | .. | .. | 21,54,619 | 37,66,641 | 36,95,641 |
| 19 Nandiyar channel system | 156 | 21,510 | 4,127 | 32 | 4,159 | 17,351 | 13,401 | 560 |
| 20 Chicacole minor river system | 532 | 74,519 | 5,597 | 46 | 5,643 | 68,876 | 1,23,186 | 33,829 |
| 21 Lower Coleroon anicut system | 1,567 | 2,38,981 | 9,369 | 73 | 9,442 | 2,29,539 | 4,20,738 | 2,75,180 |
| 22 Kistna East Bank canal extension scheme. | 1,361 | 2,17,223 | 15,597 | 122 | 15,719 | 2,01,504 | 4,78,075 | 4,73,494 |
| 23 Polavaram island project | 584 | 82,656 | .. | .. | .. | 82,656 | 93,903 | 93,903 |
| 24 Cauvery-Mettur project | 4,290 | 6,58,939 | 14,670 | 114 | 14,784 | 6,44,155 | 10,84,099 | 9,98,912 |
| 25 Kattalai scheme | 718 | 1,06,677 | 62,412 | 485 | 62,897 | 43,780 | 3,46,617 | 1,55,514 |
| Total, A. Irrigation Works—1. Productive Works. | 56,992 | 89,16,637 | 15,68,357 | 9,959 | 15,78,316 | 73,38,321 | 1,65,46,938 | 1,24,29,981 |
| 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | |
| 1 Kurnool-Cuddapah canal | 1,132 | 2,31,338 | 5,271 | 30 | 5,301 | 2,26,037 | 1,86,654 | 1,56,083 |
| 2 Barur tank | 55 | 9,027 | .. | .. | .. | 9,027 | 21,357 | 15,457 |
| 3 Vallur anicut | 77 | 9,489 | 1,558 | 13 | 1,571 | 7,918 | — 3,501 | — 6,930 |
| 4 Madras Water-supply and Irrigation system. | 238 | 29,980 | 4,544 | 38 | 4,582 | 25,398 | 41,915 | 35,497 |
| 5 Pelandurai anicut system | 218 | 33,231 | 149 | 1 | 150 | 33,081 | 34,288 | 31,438 |
| 6 Palar anicut system | 2,698 | 3,82,560 | 4,199 | 31 | 4,230 | 3,78,330 | 8,824 | — 1,11,946 |
| 7 Muniyeru anicut system | 123 | 19,719 | 284 | 2 | 286 | 19,433 | 34,359 | 32,145 |
| 8 Dondapad tank | 54 | 7,180 | .. | .. | .. | 7,180 | — 4,630 | — 4,630 |
| 9 Yerur tank | 29 | 3,889 | .. | .. | .. | 3,889 | 58 | — 367 |

-I.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47—*cont.*

| Works or systems. | Working expenses—*cont.* | | | | | | Net revenue | |
|---|---|---|---|---|---|---|---|---|
| | Indirect charges. | Grand total of working expenses. | *Deduct* old maintenance charges. | | | Total working expenses on improvements. | Total. | Due to improvements. |
| | | | Direct charges. | Indirect charges. | Total. | | | |
| | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) |
| A. IRRIGATION WORKS—*cont.* | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | |
| 10 Sagileru system | 50 | 9,292 | 3,852 | 22 | 3,874 | 5,418 | 16,484 | + 2,558 |
| 11 Atmakur tank | 27 | 3,599 | .. | .. | .. | 3,599 | — 1,307 | — 1,307 |
| 12 Jangamaheswarapuram tank | 2 | 294 | .. | .. | .. | 294 | 94 | 441 |
| 13 Anamasamudram-Beeraperu tank | 8 | 929 | 765 | 7 | 772 | 157 | 3,788 | 960 |
| 14 Hajipuram tank | 5 | 1,027 | .. | .. | . | 1,027 | 3,896 | 3,896 |
| 15 Ponnalur tank | 7 | 1,276 | .. | .. | .. | 1,276 | 3,108 | 3,108 |
| 16 Markapur tank | 35 | 6,831 | 426 | 2 | 428 | 6,403 | 4,259 | 2,557 |
| 17 Nagavalli river system | 467 | 62,644 | 3,480 | 29 | 3,509 | 59,135 | 75,334 | 41,443 |
| 18 Venkatapuram tank | 9 | 1,916 | .. | .. | .. | 1,916 | 2,588 | 2,588 |
| 19 Bavanasi tank | 46 | 6,385 | .. | .. | .. | 6,385 | 828 | 828 |
| 20 Yellanur tank | 5 | 1,075 | .. | .. | .. | 1,075 | 2.004 | 2,004 |
| 21 Panjapatti reservoir project | 10 | 1,484 | .. | .. | .. | 1,484 | — 1,384 | — 1,384 |
| 22 Siddapur tank | 14 | 2,886 | .. | .. | .. | 2,886 | 4,063 | 4,063 |
| 23 Nagavaram anicut and supply channel | 18 | 3,267 | .. | .. | .. | 3,267 | 601 | — 1,655 |
| 24 Mopad reservoir system | 63 | 22,303 | .. | .. | .. | 22, 03 | 15,184 | 14,751 |
| 25 Kanniyampalaiyam anicut | 8 | 1,256 | .. | .. | .. | 1,256 | + 1,318 | + 1,318 |
| 26 Toludur reservoir project | 384 | 59,485 | .. | .. | .. | 59,485 | 81,706 | 71,116 |
| 27 Thippayapalem project | 11 | 2,361 | .. | .. | .. | 2,361 | 4,275 | 4,275 |
| 28 Basavanna channel | 68 | 17,788 | .. | .. | .. | 17,738 | 81,440 | 81,440 |
| 29 Duvvaleru project | 14 | 2,461 | .. | .. | .. | 2,461 | — 2,461 | — 2,461 |
| 30 Uduthorchalla scheme | .. | .. | .. | .. | .. | .. | .. | .. |
| 31 Mahadevapuram tank project | .. | .. | .. | .. | . | .. | .. | .. |
| 32 Tungabhadra project | .. | .. | .. | .. | .. | .. | . | .. |
| 33 Kistna Delta system—Ramperu drain | .. | .. | .. | | .. | .. | .. | .. |
| 34 Lower Bhavani project | .. | .. | .. | .. | .. | .. | .. | .. |
| Total, A. Irrigation Works—2. Unproductive Works. | 5,975 | 9,34,922 | 24,528 | 175 | 24,703 | 9,10,219 | 6,15,989 | 3,77,286 |
| Total, A. Irrigation, etc., Works | 62,967 | 98,51,559 | 15,92,885 | 10,134 | 16,03,019 | 82,48,540 | 1,71,62,927 | 1,28,07,267 |
| B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS. | | | | | | | | |
| 2. UNPRODUCTIVE WORKS.—*cotn.* | | | | | | | | |
| 1 Vedaranniyam canal | 116 | 15,035 | .. | .. | .. | 15,035 | — 13,981 | — 13,981 |
| 2 Buckingham canal | 5,983 | 7,21,387 | .. | .. | .. | 7,21,387 | — 5,75,248 | — 5,75,248 |
| Total, B. Navigation, etc., Works—2. Unproductive Works. | 6,099 | 7,36,422 | .. | .. | .. | 7,36,422 | — 5,89,229 | — 5,89,229 |
| **Total**, Construction of Irrigation, etc., Works. | 69,066 | 1,05,87,981 | 15,92,885 | 10,134 | 16,03,019 | 89,84,962 | 1,65,73,698 | 1,22,18,038 |

## C-II.—Statement showing the financial results of irrigation, navigation, embankment and drainage works for, and up to the end of, 1946–47.

| Number of work. | Name of work. | General financial results to end of 1946–47. Mileage in operation. Main canals and branches. | Mileage in operation. Distribution. | Estimated cost of construction (direct and indirect). | Date of completion of work. | Date when system first came into operation. | Total capital outlay (direct and indirect). | Accumulated arrears of interest. | Accumulated surplus revenue. | Total sum-at-charge [column (7) *plus* column (8)]. |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6-*a*) | (6-*b*) | (7) | (8) | (9) | (10) |
| | A. IRRIGATION WORKS. | MILES. | MILES. | RS. | | | RS. | RS. | RS. | RS. |
| | 1. PRODUCTIVE WORKS. | | | | | | | | | |
| 1 | Cauvery delta system | 943½ | 2,798½ | 92,96,352 | 31-3-1889 | .. | 87,17,074 | .. | 5,39,30,065 | 87,17,074 |
| 2 | Srivaikuntam anicut system | 28 | 46 | 17,75,063 | 31-3-1889 | .. | 17,75,063 | .. | 1,49,522 | 17,75,063 |
| 3 | Godavari delta system | 509-5/8 | 1,887 | 2,59,35,977 | 31-3-1890 | 1877–78 | 2,19,61,955 | .. | 16,33,31,768 | 2,19,61,955 |
| 4 | Mehamattur anicut system | 15 | 9¼ | 87,184 | March 1891 | .. | 87,184 | .. | 4,13,053 | 87,184 |
| 5 | Tadepalli channel system | 85 | .. | 1,77,446 | 1893 | .. | 1,77,446 | .. | 21,94,695 | 1,77,446 |
| 6 | Kalingaroyan channel system | 62½ | .. | 1,80,486 | 1893 | .. | 1,80,486 | .. | 8,79,487 | 1,80,486 |
| 7 | Vriddhachalam anicut system | 33 | 16 | 1,08,204 | 31-3-1893 | .. | 1,08,204 | .. | 7,45,536 | 1,08,204 |
| 8 | Chembarambakkam tank system | 10-7/8 | 1-5/8 | 7,64,143 | 31-3-1893 | .. | 7,64,143 | .. | 4,10,587 | 7,64,143 |
| 9 | Marudur anicut system | 29 | 7½ | 60,122 | 1893 | 1860–61 | 60,122 | .. | 44,75,260 | 60,122 |
| 10 | Pennar river canals system | 26½ | 455-1/3 | 70,81,444 | 31-3-1894 | .. | 70,70,721 | .. | 1,24,89,198 | 70,70,721 |
| 11 | Arkenkota channel system | 24 | .. | 1,44,445 | 31-3-1894 | .. | 1,44,445 | .. | 1,58,520 | 1,44,445 |
| 12 | Tirukkoyilur anicut system | 137 | 28¼ | 3,99,190 | 31-3-1895 | .. | 3,99,190 | .. | 8,13,811 | 3,99,190 |
| 13 | Shatiatope anicut system | 41 | 149 | 10,89,561 | 31-3-1895 | . | 10,89,561 | .. | 49,97,844 | 10,89,561 |
| 14 | Cheyyar anicut system | 61 | 120 | 5,39,999 | 31-3-1896 | .. | 5,39,999 | 74,825 | . | 6,14,824 |
| 15 | Cumbum tank system | .. | 23¾ | 86,373 | 31-3-1896 | .. | 86,373 | .. | 26,052 | 86,373 |
| 16 | Poiney anicut system | 104 | 78 | 3,03,918 | 1897 | .. | 3,03,918 | .. | 13,55,092 | 3,03,918 |
| 17 | Periyar anicut system | 152 | 118 | 1,08,35,654 | 31-3-1897 | 1896–97 | 1,08,35,654 | .. | 43,92,696 | 1,08,35,654 |
| 18 | Kistna delta system | 388 | 2,115 | 2,37,10,563 | 31-3-1898 | .. | 2,28,18,669 | .. | 13,10,50,254 | 2,28,18,669 |
| 19 | Nandiyar channel system | 6½ | 16¾ | 65,715 | 1899 | 1895-96 | 65,715 | .. | 51,337 | 65,715 |
| 20 | Chicacole minor rivers system | 279-3/8 | 78-3/8 | 2,89,226 | 31-3-1900 | .. | 2,89,226 | .. | 8,16,694 | 2,89,226 |
| 21 | Lower Coleroon anicut system | 383 | 620¼ | 30,01,669 | 30-6-1903 | .. | 30,01,669 | .. | 1,45,56,670 | 30,01,669 |
| 22 | Kistna East Bank Canal Extension Scheme | 37 | 294 | 58,57,175 | 31-10-1913 | 1917–18 | 58,55,536 | .. | 18,80,848 | 58,55,536 |
| 23 | Polavaram island project | .. | 44-5/8 | 17,12,876 | 28-2-1934 | 1929–30 | 17,04,465 | 1,67,215 | .. | 18,71,680 |
| 24 | Cauvery-Mettur project | 113-5/8 | 594¼ | 7,05,71,131 | 15-6-1929 | 1932–33 | 6,46,58,914 | 4,02,95,838 | .. | 30,49,54,752 |
| 25 | Kattalai scheme | 74¼ | 106 | 45,24,782 | 1-12-1929 | 1929–30 | 41,52,183 | 21,55,122 | .. | 63,07,305 |
| | Total. A. Irrigation—1. Productive Works | 3,543¾ | 9,606-23/24 | 16,85,98,648 | .. | .. | 15,68,47,915 | 4,26,93,000 | 39,91,18,987 | 19,95,40,915 |

## C-II.—Statement showing the financial results of irrigation, navigation, embankment and drainage works for, and up to the end of, 1946–47—*cont.*

| Number of work. | Name of work. | Financial results of the year 1946–47. Gross receipts (direct and indirect). | Working expenses (direct and indirect). | Net revenue. | Percentage on capital outlay [column (7)]. | Percentage on sum-at-charge [column (10)]. | Interest. | Net profit. | Net loss. | Area irrigated. | Percentage of working expenses to receipts [columns (12) to (11)]. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (11). | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) |
| | A. IRRIGATION WORKS—*cont.* | RS. | RS. | RS. | | | RS. | RS. | RS. | ACS. | |
| | 1. PRODUCTIVE WORKS—*cont.* | | | | | | | | | | |
| 1 | Cauvery delta system .. .. .. | 16,51,491 | 5,64,493 | 10,86,998 | 12·47 | 12·47 | 3,78,243 | 7,08,755 | .. | 1,062,266 | 34·18 |
| 2 | Srivaikuntam anicut system .. .. .. | 1,87,519 | 88,476 | 99,043 | 5·58 | 5·58 | 75,036 | 24,007 | .. | 42,557 | 47·18 |
| 3 | Godavari delta system .. .. .. | 61,71,120 | 21,69,227 | 40,01,893 | 18·22 | 18·22 | 8,65,275 | 31,36,618 | .. | 1,240,642 | 35·15 |
| 4 | Mehamattur anicut system .. .. .. | 25,767 | 12,299 | 13,468 | 15·45 | 15·45 | 3,828 | 9,640 | .. | 5,408 | 47·73 |
| 5 | Tadepalli channel system .. .. .. | 1,05,397 | 29,141 | 76,256 | 42·97 | 42·97 | 7,487 | 68,769 | .. | 25,439 | 27·65 |
| 6 | Kalingaroyan channel system .. .. | 53,042 | 19,279 | 33,763 | 18·71 | 18·71 | 7,919 | 25,844 | .. | 23,674 | 36·10 |
| 7 | Vridhachalam anicut system . .. .. | 38,998 | 18,515 | 20,483 | 18·93 | 18·93 | 4,686 | 15,797 | .. | 10,830 | 48·48 |
| 8 | Chembarambakkam tank system .. .. | 45,393 | 13,048 | 32,345 | 4·23 | 4·23 | 29,311 | 3,034 | .. | 19,548 | 28·74 |
| 9 | Marudur anicut system .. .. .. | 1,05,438 | 16,162 | 89,276 | 148·49 | 148·49 | 2,642 | 86,634 | .. | 31,048 | 15·33 |
| 10 | Pennar river canals system .. .. .. | 7,61,048 | 3,45,412 | 4,15,636 | 5·88 | 5·88 | 2,71,933 | 1,43,703 | .. | 204,645 | 45·39 |
| 11 | Arkenkota channel system .. .. .. | 31,825 | 10,579 | 21,246 | 14·71 | 14·71 | 6,335 | 14,911 | .. | 5,804 | 33·24 |
| 12 | Tirukkoyilur anicut system .. .. .. | 81,604 | 61,645 | 19,959 | 5·00 | 5·00 | 17,514 | 2,445 | .. | 34,079 | 75·54 |
| 13 | Shatiatope anicut system .. .. .. | 1,69,589 | 69,003 | 1,00,586 | 9·23 | 9·23 | 46,345 | 54,241 | .. | 42,334 | 40·69 |
| 14 | Cheyyar anicut system .. .. .. | 82,685 | 71,254 | 11,431 | 2·12 | 1·86 | 23,616 | .. | 12,185 | 39,086 | 86·17 |
| 15 | Cumbum tank system .. .. .. .. | 13,407 | 4,139 | 9,268 | 10·73 | 10·73 | 3,779 | 5,489 | .. | 10,017 | 30·87 |
| 16 | Poiney anicut system .. .. .. .. | 88,020 | 69,106 | 18,914 | 6·22 | 6·22 | 13,280 | 5,634 | .. | 32,454 | 78·51 |
| 17 | Periyar anicut system .. .. .. | 9,86,446 | 3,34,063 | 6,52,383 | 6·02 | 6·02 | 4,70,908 | 1,81,475 | .. | 199,845 | 33·86 |
| 18 | Kistna delta system .. .. .. .. | 58,50,260 | 21,54,619 | 36,95,641 | 16·20 | 16·20 | 9,65,050 | 27,30,591 | .. | 1,005,903 | 36·83 |
| 19 | Nandiyar channel system .. .. .. | 17,911 | 17,351 | 560 | 0·85 | 0·85 | 2,845 | .. | 2,285 | 9,927 | 96·87 |
| 20 | Chicacole minor rivers system .. .. | 1,02,705 | 68,876 | 33,829 | 11·70 | 11·70 | 12,519 | 21,310 | .. | 88,235 | 67·06 |
| 21 | Lower Coleroon anicut system .. .. | 5,04,719 | 2,29,539 | 2,75,180 | 9·17 | 9·17 | 1,31,104 | 1,44,076 | .. | 123,553 | 45·48 |
| 22 | Kistna East Bank Canal Extension Scheme | 6,74,998 | 2,01,504 | 4,73,494 | 8·09 | 8·09 | 2,57,995 | 2,15,499 | .. | 96,808 | 29·85 |
| 23 | Polavaram island project .. .. .. | 1,76,559 | 82,656 | 93,903 | 5·51 | 5·02 | 75,422 | 18,481 | .. | 20,476 | 46·81 |
| 24 | Cauvery-Mettur project .. .. .. | 16,43,037 | 6,44,155 | 9,98,912 | 1·54 | 0·95 | 28,60,243 | .. | 18,61,331 | 242,149 | 39·20 |
| 25 | Kattalai scheme .. .. . .. | 1,99,294 | 43,780 | 1,55,514 | 3·75 | 2·47 | 1,82,263 | .. | 26,749 | 70,388 | 21·97 |
| | **Total, A. Irrigation—1. Productive Works.** | 1,97,68,302 | 73,38,321 | 1,24,29,981 | 7·92 | 6·23 | 67,15,578 | 57,14,403 | .. | 4,637,115 | 37·12 |

## C-II.—Statement showing the financial results of irrigation, navigation, embankment and drainage works for, and up to the end of, 1946-47—*cont.*

| (Number of work.) (1) | Name of works. (2) | General financial results to end of 1946-47. Mileage in operation. Main canals and branches. (3) MILES. | Mileage in operation. Distribution. (4) MILES. | Estimated cost of construction (direct and indirect). (5) RS. | Date of completion of work. (6-*a*) | Date when system first came into operation. (6-*b*) | Total capital outlay (direct and indirect). (7) RS. | Accumulated arrears of interest. (8) RS. | Accumulated surplus revenues. (9) RS. | Total sum-at charge [column (7) *plus* column (8)]. (10) RS. |
|---|---|---|---|---|---|---|---|---|---|---|
| | A. IRRIGATION WORKS—*cont.* | | | | | | | | | |
| | 2. UNPRODUCTIVE WORKS. | | | | | | | | | |
| 1 | Kurnool-Cuddapah canal | 417-5/8 | 294-7/8 | 2,34,11,422 | .. | 1882–83 | 2,34,06,625 | 4,86,30,789 | .. | 7,20,37,414 |
| 2 | Barur tank | 11 | 26 | 4,52,037 | 31–3–1891 | 1887–88 | 4,52,037 | 4,89,537 | .. | 9,41,574 |
| 3 | Vallur anicut system | 5-5/8 | 8 | 76,282 | 31–3–1893 | .. | 76,282 | 70,723 | .. | 1,47,005 |
| 4 | Madras Water-supply and Irrigation system. | 11¼ | | 18,68,918 | 1893 | .. | 18,68,918 | 31,28,574 | .. | 49,97,492 |
| 5 | Pelandorai anicut system | 39 | 25 | 6,92,074 | 1893 | .. | 6,92,074 | 4,71,347 | .. | 11,63,421 |
| 6 | Palar anicut system | 157 | 227 | 24,89,275 | 31–3–1896 | .. | 24,89,275 | 19,91,141 | .. | 44,80,116 |
| 7 | Muniyeru system | 261 | 28-7/16 | 6,09,601 | 1901–02 | 1898–99 | 6,09,601 | 2,65,330 | .. | 8,74,931 |
| 8 | Dondapad tank | .. | 6-7/8 | 1,40,004 | 31–3–1903 | 1898–99 | 1,40,004 | 2,36,437 | .. | 3,76,441 |
| 9 | Yerur tank | .. | .. | 63,353 | 31–3–1907 | 1912–13 | 63,353 | 66,703 | .. | 1,30,056 |
| 10 | Sagileru system | 12 | .. | 4,64,727 | . | 1898–99 | 4,64,727 | 8,97,737 | .. | 13,62,464 |
| 11 | Atmakur tank | .. | 4½ | 1,31,143 | 31–8–1907 | 1912–13 | 1,28,277 | 1,34,856 | .. | 2,63,133 |
| 12 | Jangamaheswarapuram tank | 3¾ | 5½ | 71,664 | 31–3–1908 | 1912–13 | 71,664 | 85,804 | .. | 1,57,468 |
| 13 | Anamasamudram-Beraperu tank | .. | 2-7/8 | 73,573 | 31–3–1910 | 1911–12 | 73,573 | 1,32,718 | .. | 2,06,291 |
| 14 | Hajipuram tank | .. | 4¼ | 3,11,883 | .. | 1910–11 | 3,11,883 | 3,33,250 | .. | 6,45,133 |
| 15 | Ponnalur tank | .. | .. | 2,18,649 | 30–3–1911 | 1910–11 | 2,18,649 | 2,86,779 | .. | 5,05,428 |
| 16 | Markapur tank | 7½ | .. | 1,29,340 | . | 1909–10 | 1,29,340 | 1,42,632 | .. | 2,71,972 |
| 17 | Nagavalli river system | 64½ | 47¼ | 18,02,487 | 31–3–1913 | 1909–10 | 18,01,983 | 5,61,605 | .. | 23,63,588 |
| 18 | Venkatapuram tank | 3¼ | .. | 3,84,921 | 31–3–1918 | 1921–22 | 3,84,921 | 4,76,380 | .. | 8,61,301 |
| 19 | Bhavanasi tank | 6-3/8 | .. | 2,65,491 | 31–3–1919 | 1921–22 | 2,65,491 | 2,98,513 | .. | 5,64,004 |
| 20 | Yellanur tank | .. | 3-7/8 | 2,69,707 | .. | 1920–21 | 2,69,707 | 2,73,392 | .. | 5,43,099 |
| 21 | Panjapatti reservoir | .. | 1½ | 3,39,276 | 30–6–1919 | 1924–24 | 3,39,276 | 6,26,156 | .. | 9,65,432 |
| 22 | Siddapur tank | 6-7/8 | 9 | 8,04,486 | 31–10–1919 | 1921–22 | 8,04,486 | 9,36,427 | .. | 17,40,913 |
| 23 | Nagavaram anicut and supply channel | 2 | .. | 1,09,890 | 31–12–1919 | 1920–21 | 1,09,890 | 1,15,885 | .. | 2,25,775 |
| 24 | Mopad reservoir system | .. | 84 | 24,20,630 | 30–4–1921 | 1921–22 | 24,28,929 | 23,43,509 | .. | 47,72,438 |
| 25 | Kanniyampalayam anicut | 10½ | .. | 1,11,074 | 31–3–1922 | 1924–25 | 1,11,074 | 1,64,184 | .. | 2,75,258 |
| 26 | Toludur reservoir project | 31¾ | 40 | 26,22,781 | 31–10–1925 | 1924–25 | 26,22,781 | 15,86,594 | .. | 42,09,375 |
| 27 | Tippayapalem project | .. | .. | 5,93,900 | In progress. | In progress. | 5,84,216 | 3,00,199 | .. | 8,84,415 |
| 28 | Basavannah and Roya channel | .. | .. | 5,92,100 | Do. | Do. | 5,89,780 | 4,40,668 | .. | 10,30,448 |
| 29 | Luvvaleru project | .. | .. | 1,52,075 | Do. | Do. | 1,47,291 | 55,281 | .. | 2,02,572 |
| 30 | Uduthorahalli scheme | .. | .. | 2,11,088 | .. | Do. | 1,56,517 | 16,115 | .. | 1,72,632 |
| 31 | Mahadevapuram tank | .. | .. | 1,12,489 | .. | Do. | 14,425 | 1,913 | .. | 16,338 |
| 32 | Tungabhadra project | .. | .. | 9,11,34,000 | .. | Do. | 64,43,562 | 1,83,318 | .. | 66,26,880 |
| 33 | Romperu drain | .. | .. | 1,05,71,615 | .. | Do. | 2,61,898 | 5,097 | .. | 2,66,995 |
| 34 | Lower Bhavani project | .. | .. | .. | .. | Do. | 2,045 | 41 | .. | 2,086 |
| | Total, A. Irrigation Works—2. Unproductive Works. | 1,050½ | 818-9/16 | 14,37,01,955 | .. | .. | 4,85,34,554 | 6,57,49,634 | .. | 11,42,84,188 |
| | Total, A. Irrigation Works | 4,594¾ | 10,425-25/48 | 31,23,00,603 | .. | .. | 20,53,82,469 | 10,84,42,634 | .. | 31,38,25,103 |
| | B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS. | | | | | | | | | |
| | 2. UNPRODUCTIVE WORKS. | | | | | | | | | |
| 1 | Vedaranyam canal | 31⅜ | .. | 1,36,432 | 31–3–1893 | .. | 1,36,432 | 8,41,392 | .. | 9,77,824 |
| 2 | Buckingham canal | 262 | .. | 96,44,500 | March 1897 | .. | 95,71,797 | 2,89,33,049 | .. | 3,85,04,846 |
| | Total, B. Navigation, etc., Works—2. Unproductive Works. | 293¾ | .. | 97,80,932 | .. | .. | 97,08,229 | 2,97,74,441 | .. | 3,94,82,670 |
| | Total, B. Navigation, etc., Works. | 293¾ | . | 32,20,81,535 | . | .. | 21,50,90,698 | 13,82,17,075 | .. | 35,33,07,773 |

## C-II.—Statement showing the financial results of irrigation, navigation, embankment and drainage works for, and up to the end of, 1946–47—*cont.*

| Number of works. | Name of works | Financial results of the year 1946–47. Gross receipts (direct and indirect). | Working expenses (direct and indirect). | Net revenue. | Percentage on capital outlay [column (7)]. | Percentage on sum-at-charge [column (10)]. | Interest. | Net profit. | Net loss. | Area irrigated. | Percentage of working expenses to receipts [columns (12) to (11)]. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) |
| | A. IRRIGATION WORKS—*cont.* | RS. | RS. | RS. | | | RS. | RS. | RS. | ACS. | |
| | 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | | | |
| 1 | Kurnool-Cuddapah canal | 3,82,120 | 1,26,037 | 1,56,083 | 0·67 | 0·22 | 10,49,813 | .. | 8,93,730 | 12,698 / 83,002 | 59·15 |
| 2 | Barur tank | 24,484 | 9,027 | 15,457 | 3·42 | 1·64 | 19,264 | .. | 3,807 | 6,858 | 36·87 |
| 3 | Vallur anicut system | 988 | 7,918 | — 6,930 | — 9·08 | —4·71 | 3,346 | .. | 10,276 | 5,545 | 801·42 |
| 4 | Madras Water-supply and Irrigation system. | 60,895 | 25,398 | 35,497 | 1·90 | 0·07 | 73,299 | .. | 37,802 | 11,054 | 41·71 |
| 5 | Pelandorai anicut system | 64,519 | 33,081 | 31,438 | 4·54 | 2·70 | 28,949 | 2,489 | .. | 15,582 | 51·27 |
| 6 | Palar anicut system | 2,66,384 | 3,78,330 | —1,11,946 | — 4·50 | —2·50 | 1,06,674 | .. | 2,18,620 | 1,21,391 | 142·02 |
| 7 | Muniyeru system | 51,578 | 19,433 | 32,145 | 5·27 | 3·67 | 26,064 | 6,081 | .. | 10,180 | 37·68 |
| 8 | Dondapad tank | 2,550 | 7,180 | — 4,630 | — 3·31 | —1·23 | 5,615 | .. | 10,245 | 586 | 281·57 |
| 9 | Yerur tank | 3,522 | 3,889 | — 367 | — 0·58 | —0·28 | 2,778 | .. | 3,145 | 1,156 | 109·48 |
| 10 | Sagileru system | 7,976 | 5,418 | 2,558 | 0·55 | 0·19 | 20,120 | .. | 17,562 | 6,606 | 67·93 |
| 11 | Atmakur tank | 2,292 | 3,599 | — 1,307 | — 1·02 | —0·50 | 5,095 | .. | 6,402 | 503 | 157·06 |
| 12 | Jangamaheswarapuram tank | 735 | 294 | 441 | 0·62 | 0·28 | 2,756 | .. | 3,315 | 265 | 40·00 |
| 13 | Anamasamudram-Beraperu tank | 1,117 | 157 | 960 | 1·30 | 0·47 | 3,226 | .. | 2,266 | 1,322 | 14·06 |
| 14 | Hajipuram tank | 4,923 | 1,027 | 3,896 | 1·25 | 0·60 | 12,545 | .. | 8,649 | 1,592 | 20·86 |
| 15 | Ponnalur tank | 4,384 | 1,276 | 3,108 | 1·42 | 0·61 | 8,684 | .. | 5,576 | 901 | 29·11 |
| 16 | Markapur tank | 8,960 | 6,403 | 2,557 | 1·98 | 0·94 | 5,602 | .. | 3,045 | 2,452 | 71·46 |
| 17 | Nagavalli river system | 1,00,578 | 59,135 | 41,443 | 2·30 | 1·75 | 78,905 | .. | 37,462 | 28,635 | 58·80 |
| 18 | Venkatapuram tank | 4,504 | 1,916 | 2,588 | 0·67 | 0 30 | 16,751 | .. | 14,163 | 665 | 42·54 |
| 19 | Bhavanasi tank | 7,213 | 6,385 | 828 | 0·31 | 0·15 | 11,448 | .. | 10,620 | 945 | 88·52 |
| 20 | Yellanur tank | 3,079 | 1,07 | 2,004 | 0·74 | 0·37 | 10,764 | .. | 8,760 | 575 | 34·91 |
| 21 | Panjapatti reservoir | 100 | 1,484 | — 1,384 | — 0·41 | —0·14 | 14,750 | .. | 16,134 | | 1,484·00 |
| 22 | Siddapur tank | 6,949 | 2,886 | 4,063 | 0·51 | 0·23 | 35,597 | .. | 31,534 | 1,008 | 41·53 |
| 23 | Nagavaram anicut and supply channel | 1,612 | 3,267 | — 1,65. | — 1·51 | —0·73 | 4,828 | .. | 6,483 | 815 | 202·67 |
| 24 | Mopad reservoir system | 37,054 | 22,303 | 14,751 | 0·6 | 0·31 | 1,04,548 | .. | 89,797 | 6,157 | 60·19 |
| 25 | Kanniyampalayam anicut | 2,574 | 1,256 | 1,318 | 1·19 | 0·48 | 4,825 | .. | 3,507 | 373 | 48·80 |
| 26 | Tholudur reservoir project | 1,30,601 | 59,485 | 71,116 | 2·71 | 1·69 | 1,06,652 | .. | 35,536 | 20,505 | 45·55 |
| 27 | Tippayapalem project | 6,636 | 2,361 | 4,275 | 0·73 | 0·48 | 25,480 | .. | 21,205 | 1,085 | 35·58 |
| 28 | Basavannahand Roya channel | 99,178 | 17,738 | 81,440 | 13·76 | 7·87 | 26,230 | 55,210 | .. | 14,336 | 17·89 |
| 29 | Duvvaleru project | .. | 2,461 | — 2,461 | — 1·67 | 1·21 | 6,595 | .. | 9,056 | .. | .. |
| 30 | Uduthorahalli scheme | .. | .. | .. | .. | .. | 6,505 | .. | 6,505 | .. | . |
| 31 | Mahadevapuram tank | .. | .. | .. | . | .. | 609 | .. | 609 | .. | .. |
| 32 | Tungabhadra project | .. | .. | .. | .. | .. | 1,54,505 | .. | 1,54,505 | .. | .. |
| 33 | Romperu drain | .. | .. | .. | .. | .. | 5,097 | .. | 5,097 | .. | .. |
| 34 | Lower Bhavani project | .. | .. | .. | .. | .. | 41 | .. | 41 | .. | .. |
| Total, | A. Irrigation Works—2. Unproductive Works | 12,87,505 | 9,10,219 | 3,77,286 | 0·78 | 0·33 | 19,87,960 | .. | 16,10,674 | 3,56,792 | 70·70 |
| | Total, A. Irrigation Works | 2,10,55,807 | 82,48,540 | 1,28,07,267 | 6·24 | 4·08 | 87,93,538 | 41,03,729 | .. | 50,43,907 | 39·17 |
| | B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS—*cont.* | | | | | | | | | | |
| | 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | | | |
| 1 | Vedaranyam canal | 1,054 | 15,035 | — 13,981 | —10·25 | —1 43 | 5,971 | .. | 19,952 | .. | 1,426·47 |
| 2 | Buckingham canal | 1,46,139 | 7,21,387 | — 5,75,248 | — 6·01 | —1·49 | 4,08,534 | .. | 9,83,782 | .. | 493·63 |
| Total, | B. Navigation, etc., Works—2. Unproductive Works | 1,47,193 | 7,36,422 | — 5,89,229 | — 607 | —1·49 | 4,14,505 | .. | 10,03,734 | .. | 500·31 |
| | Total, B. Navigation, etc., Works, | 1,47,193 | 7,36,422 | — 5,89,229 | — 6·07 | —1·49 | 4,14,505 | .. | 13,03,734 | .. | 500,31 |
| | Total, Construction of Irrigation, etc., Works. | 2,12,03,000 | 89,84,962 | 1,22,18,038 | 5·68 | 3·46 | 91,18,043 | 30,99,995 | .. | 50,43,907 | .. |

## C-III.—Demands and realizations during the year 1946–47 in the Madras Presidency—Irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept.

| Serial number and works or systems. | Balance of demands unrealized at the commencement of the year. | Demand for the year. | Total. | *Deduct* remissions including cash refunds. | Net total. | *Deduct* amount unrealized at the close of the year. | Actual total receipts of the year. | *Deduct* share due to old irrigation. | Net amount due to improvements. |
|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | | RS. | RS. | RS. | RS. | | RS. | RS. | RS. |
| **A. IRRIGATION WORKS.** | | | | | | | | | |
| 1. PRODUCTIVE WORKS. | | | | | | | | | |
| 1 Cauvery delta system | .. | 54,93,237 | 54,93,237 | 32,344 | 54,60,893 | .. | 54,60,893 | 38,09,402 | 16,51,491 |
| 2 Srivaikuntam anicut system | .. | 2,70,095 | 2,70 095 | 3,576 | 2,66,519 | .. | 2,66,519 | 79,000 | 1,87,519 |
| 3 Godavari delta system | .. | 67,01,266 | 67,01,266 | 4,06,146 | 62,95,120 | .. | 62,95,120 | 1,24,000 | 61,71,120 |
| 4 Mehamattur anicut system | .. | 29,844 | 29,844 | 77 | 29,767 | .. | 29,767 | 4,000 | 25,767 |
| 5 Thadapalli channel system | .. | 1,81,969 | 1,81,969 | 572 | 1,81,397 | .. | 1,81,397 | 76,000 | 1,05,397 |
| 6 Kalingarayan channel system | .. | 1,38,266 | 1,38,266 | 224 | 1,38,042 | .. | 1,38,042 | 85,000 | 53,042 |
| 7 Vriddhachalam anicut system | .. | 48,513 | 48,513 | 1,015 | 47,498 | .. | 47,498 | 8,500 | 38,998 |
| 8 Chembarambakkam tank system | .. | 62,290 | 62,290 | 897 | 61,393 | .. | 61,393 | 16,000 | 45,393 |
| 9 Marudur anicut system | .. | 2,20,997 | 2,20,997 | 559 | 2,20,438 | .. | 2,20,438 | 1,15,000 | 1,05,438 |
| 10 Pennar river canals system | .. | 10,30,660 | 10,30,660 | 13,612 | 10,17,048 | .. | 10,17,048 | 2,56,000 | 7,61,048 |
| 11 Arkenkota channel system | .. | 50,825 | 50,825 | .. | 50,825 | .. | 50,825 | 19,000 | 31,825 |
| 12 Tirukkoyilur anicut system | .. | 1,41,668 | 1,41,668 | 64 | 1,41,604 | .. | 1,41,604 | 60,000 | 81,604 |
| 13 Shatiatope anicut system | .. | 1,90,762 | 1,90,762 | 1,173 | 1,89,589 | .. | 1,89,589 | 20,000 | 1,69,589 |
| 14 Cheyyar anicut system | .. | 1,22,533 | 1,22,533 | 848 | 1,21,685 | .. | 1,21,685 | 39,000 | 82,685 |
| 15 Cumbum tank system | .. | 43,418 | 43,418 | 11 | 43,407 | .. | 43,407 | 30,000 | 13,407 |
| 16 Poiney anicut system | .. | 1,27,943 | 1,27,943 | 1,823 | 1,26,120 | .. | 1,26,120 | 38,100 | 88,020 |
| 17 Periyar system | .. | 11,93,205 | 11,93,205 | 2,759 | 11,90,446 | .. | 11,90,446 | 2,04,000 | 9,86,446 |
| 18 Kistna delta system | .. | 61,12.046 | 61,12,046 | 1,90,786 | 59,21,260 | .. | 59,21,260 | 71,000 | 58,50,260 |
| 19 Nandiyar channel system | .. | 35,262 | 35,262 | 351 | 34,911 | .. | 34,911 | 17,000 | 17,911 |
| 20 Chicacole minor river system | .. | 1,99,374 | 1,99,374 | 1,669 | 1,97,705 | .. | 1,97,705 | 95,000 | 1,02,705 |
| 21 Lower Coleroon anicut system | .. | 6,61,278 | 6,61,278 | 1,559 | 6,59,719 | .. | 6,59,719 | 1,55,000 | 5,04,719 |
| 22 Kistna East Bank canal extension scheme | .. | 7,30,479 | 7,30,479 | 35,181 | 6,95,298 | .. | 6,95,298 | 20,300 | 6,74,998 |
| 23 Polavaram Island project | .. | 1,76,560 | 1,76,560 | 1 | 1,76,559 | .. | 1,76,559 | .. | 1,76,559 |
| 24 Cauvery-Mettur project | .. | 17,63,914 | 17,63,914 | 20,876 | 17,43,038 | .. | 17,43,038 | 99,971 | 16,43,067 |
| 25 Kattalai scheme | .. | 4,58,209 | 4,58,209 | 4,915 | 4,53,294 | .. | 4,53,294 | 2,54,000 | 1,99,294 |
| **Total, A. Irrigation Works—1. Productive Works.** | .. | 2,61,84,613 | 2,61,84,613 | 7,21,038 | 2,54,63,575 | .. | 2,54,63.575 | 56,95,273 | 1,97,68,302 |
| 2. UNPRODUCTIVE WORKS. | | | | | | | | | |
| 1 Kurnool-Cuddapah canal | .. | 4,18,484 | 4,18,484 | 492 | 4,17,992 | .. | 4,17,992 | 35,872 | 3,82,120 |
| 2 Barur tank | .. | 31,269 | 31,269 | 885 | 30,384 | .. | 30,384 | 5,900 | 24,484 |
| 3 Vallur anicut system | .. | 9,873 | 9,873 | 3,885 | 5,988 | .. | 5,988 | 5,000 | 988 |
| 4 Madras water-supply and irrigation system | .. | 72,340 | 72,340 | 445 | 71,895 | .. | 71,895 | 11,000 | 60,895 |
| 5 Pelandurai anicut system | .. | 68,007 | 68,007 | 488 | 67,519 | .. | 67,519 | 3,000 | 64,519 |
| 6 Palar anicut system | .. | 4,08,685 | 4,08,685 | 17,301 | 3,91,384 | .. | 3,91,384 | 1,25,000 | 2,66,384 |
| 7 Muniyeru anicut system | .. | 56,350 | 56,350 | 2,272 | 54,078 | .. | 54,078 | 2,500 | 51,578 |
| 8 Dondapad tank | .. | 2,550 | 2,550 | .. | 2,550 | .. | 2,550 | . | 2,550 |
| 9 Yerur tank | .. | 4,046 | 4,046 | 99 | 3,947 | .. | 3,947 | 425 | 3,522 |
| Sagileru system | .. | 25,779 | 25,779 | 3 | 25,776 | .. | 25,776 | 17,800 | 7,976 |

## C-III.—Demands and realizations during the year 1946–47 in the Madras Presidency—Irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept—*cont.*

| Serial number and works or systems. | Balance of demands unrealized at the commencement of the year. | Demand for the year. | Total. | *Deduct* remissions including cash refunds. | Net total. | *Deduct* amount unrealized at the close of the year. | Actual total receipts of the year. | *Deduct* share due to old irrigation. | Net amount due to improvements. |
|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | | Rs. | Rs. | Rs. | Rs. | | Rs. | Rs. | Rs. |
| A. IRRIGATION WORKS—*cont.* | | | | | | | | | |
| 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | | |
| 11 Atmakur tank | .. | 2,292 | 2,292 | .. | 2,292 | .. | 2,292 | .. | 2,292 |
| 12 Jangamaheswarapuram tank | .. | 1,300 | 1,300 | 65 | 1,235 | .. | 1,235 | 500 | 735 |
| 13 Anamasamudram-Beraperu tank | .. | 4,717 | 4,717 | .. | 4,717 | .. | 4,717 | 3,600 | 1,117 |
| 14 Hajipuram tank | .. | 4,923 | 4,923 | .. | 4,923 | .. | 4,923 | .. | 4,923 |
| 15 Ponnalur tank | .. | 4,384 | 4,384 | .. | 4,384 | .. | 4,384 | .. | 4,384 |
| 16 Markapur tank | .. | 11,090 | 11,090 | .. | 11,090 | .. | 11,090 | 2,130 | 8,960 |
| 17 Nagavalli river system | .. | 1,39,524 | 1,39,524 | 1,546 | 1,37,978 | .. | 1,37,978 | 37,400 | 1,00,578 |
| 18 Venkatapuram tank | .. | 4,504 | 4,504 | .. | 4,504 | .. | 4,504 | .. | 4,504 |
| 19 Bhavanasi tank | .. | 7,213 | 7,213 | .. | 7,213 | .. | 7,213 | .. | 7,213 |
| 20 Yellamur tank | .. | 3,559 | 3,559 | 480 | 3,079 | .. | 3,079 | .. | 3,079 |
| 21 Panjapatti reservoir project | .. | 100 | 100 | .. | 100 | .. | 100 | .. | 100 |
| 22 Siddapur tank | .. | 6,949 | 6,949 | .. | 6,949 | .. | 6,949 | .. | 6,949 |
| 23 Nagavaram anicut and supply channel | .. | 4,679 | 4,679 | 811 | 3,868 | .. | 3,868 | 2,256 | 1,612 |
| 24 Mopad reservoir system | .. | 37,487 | 37,487 | .. | 37,487 | .. | 37,487 | 433 | 37,054 |
| 25 Kanniyampalaiyam anicut | .. | 2,574 | 2,574 | .. | 2,574 | .. | 2,574 | .. | 2,574 |
| 26 Toludur reservoir system | .. | 1,41,354 | 1,41,354 | 163 | 1,41,191 | .. | 1,41,191 | 10,590 | 1,30,601 |
| 27 Tippayapalem project | .. | 6,636 | 6,636 | .. | 6,636 | .. | 6,636 | .. | 6,636 |
| 28 Basavanna channel | .. | 99,202 | 99,202 | 24 | 99,178 | .. | 99,178 | .. | 99,178 |
| **Total, A. Irrigation Works—2. Unproductive Works.** | .. | 15,79,870 | 15,79,870 | 28,959 | 15,50,911 | .. | 15,50,911 | 2,63,406 | 12,87,505 |
| Total, A. Irrigation Works | .. | 2,77,64,483 | 2,77,64,483 | 7,49,997 | 2,70,14,486 | .. | 2,70,14,486 | 59,58,679 | 2,10,55,807 |
| B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS. | | | | | | | | | |
| 2. UNPRODUCTIVE WORKS. | | | | | | | | | |
| 1 Vedaranniyam canal | .. | 1,054 | 1,054 | .. | 1,054 | .. | 1,054 | .. | 1,054 |
| 2 Buckingham canal | .. | 1,46,139 | 1,46,139 | .. | 1,46,139 | .. | 1,46,139 | .. | 1,46,139 |
| **Total, B. Navigation, etc., Works—2. Unproductive** | .. | 1,47,193 | 1,47,193 | .. | 1,47,193 | .. | 1,47,193 | .. | 1,47,193 |
| **Total, Construction of Irrigation, etc., Works** | .. | 2,79,11,676 | 2,79,11,676 | 7,49,997 | 2,71,61,679 | .. | 2,71,61,679 | 59,58,679 | 2,12,03,000 |

C-IV.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47 based on the assessment for the year.

| Works or systems. | Capital outlay (direct and indirect) to end of the year. | Revenue assessed during the year. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Direct revenue. | | | | | Indirect revenue and land revenue due to operations of canal. | Less refunds of revenue. | Grand total. |
| | | Owner's rates. | Plantations. | Navigation. | Miscellaneous. | Total. | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| A. IRRIGATION WORKS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| 1. PRODUCTIVE WORKS. | | | | | | | | | |
| 1 Cauvery delta system | 87,17,074 | .. | 15,199 | 8,239 | 19,637 | 43,075 | 54,18,332 | 514 | 54,60,893 |
| 2 Srivaikuntam anicut system | 17,75,063 | .. | 2,688 | .. | 30,680 | 33,368 | 2,33,234 | 83 | 2,66,519 |
| 3 Godavari delta system | 2,19,61,955 | 264 | 3,677 | 4,01,908 | 82,016 | 4,87,865 | 58,07,981 | 726 | 62,95,120 |
| 4 Mehamattur anicut system | 87,184 | .. | 188 | .. | 1,562 | 1,750 | 28,018 | 1 | 29,767 |
| 5 Thadepalli channel system | 1,77,446 | .. | 2,893 | . | 102 | 2,995 | 1,78,404 | 2 | 1,81,397 |
| 6 Kalingarayan channel system | 1,80,486 | .. | 4,424 | .. | 916 | 5,340 | 1,32,907 | 205 | 1,38,042 |
| 7 Vriddhachalam anicut system | 1,08,204 | .. | 1,024 | .. | 56 | 1,080 | 46,418 | .. | 47,498 |
| 8 Chembrambakkam tank system | 7,64,143 | .. | .. | .. | 143 | 143 | 61,250 | .. | 61,393 |
| 9 Marudur anicut system | 60,122 | .. | 195 | .. | 9,382 | 9,577 | 2,11,061 | 200 | 2,20,438 |
| 10 Pennar river canals system | 70,70,721 | .. | 613 | 632 | 3,534 | 4,779 | 10,12,314 | 45 | 10,17,048 |
| 11 Arkenkota channel system | 1,44,445 | .. | 1,174 | .. | 378 | 1,552 | 49,273 | .. | 50,825 |
| 12 Tirukkoyilur anicut system | 3,99,190 | .. | 966 | .. | 297 | 1,263 | 1,40,351 | 10 | 1,41,604 |
| 13 Shatiatope anicut system | 10,89,561 | .. | 634 | 22 | 512 | 1,168 | 1,88,491 | 70 | 1,89,589 |
| 14 Cheyyar anicut system | 5,39,999 | .. | 198 | .. | 122 | 320 | 1,21,365 | .. | 1,21,685 |
| 15 Cumbum tank system | 86,373 | .. | .. | .. | .. | .. | 43,407 | .. | 43,407 |
| 16 Poiney anicut system | 3,03.918 | .. | 115 | .. | 311 | 426 | 1,25,694 | .. | 1,26,120 |
| 17 Periyar system | 1,08,35,654 | .. | 3,249 | 152 | 14,776 | 18,177 | 11,72,824 | 555 | 11,90,446 |
| 18 Kistna delta system | 2,28,18,669 | .. | 7,316 | 2,01,005 | 1,05,139 | 3,13,460 | 56,18,230 | 10,430 | 59,21,260 |
| 19 Nandiyar channel system | 65.715 | .. | 741 | 126 | 556 | 1,423 | 33,547 | 59 | 34,911 |
| 20 Chicacole minor rivers system | 2,89,226 | .. | . | .. | 197 | 197 | 1,97,508 | .. | 1,97,705 |
| 21 Lower Coleroon anicut system | 30,01,669 | .. | 5,225 | 254 | 5,355 | 10,834 | 6,49,010 | 125 | 6,59,719 |
| 22 Kistna east bank canal extension scheme | 58,55,536 | .. | .. | 2,509 | 10,730 | 13,239 | 6,82,505 | 446 | 6,95,298 |
| 23 Polavaram island project | 17,04,465 | .. | 420 | 21 | 1,022 | 1,463 | 1,75,096 | .. | 1,76,559 |
| 24 Cauvery-Mettur project | 6,46,58,914 | .. | 8,634 | 3 | 1,05,664 | 1,14,301 | 16,34,307 | 5,570 | 17,43,038 |
| 25 Kattalai scheme | 41,52,183 | .. | 9,883 | 116 | 1,878 | 11,877 | 4,41,557 | 140 | 4,53,294 |
| Total, A. Irrigation Works—1. Productive Works. | 15,68,47,915 | 264 | 69,456 | 6,14,987 | 3,95,229 | 10,79,672 | 2,44,03,084 | 19,181 | 2,54,63,575 |
| 2. UNPRODUCTIVE WORKS. | | | | | | | | | |
| 1 Kurnool-Cuddapah canal | 2,34,06,625 | .. | 3,014 | 617 | 7,953 | 11,134 | 4,06,976 | 118 | 4,17,992 |
| 2 Barur tank | 4,52,037 | .. | 3,781 | .. | 286 | 4,067 | 26,330 | 13 | 30,384 |
| 3 Vallur anicut | 76,282 | .. | .. | .. | 173 | 173 | 5,815 | .. | 5,988 |
| 4 Madras water-supply and irrigation system | 18,68,918 | .. | .. | .. | 45,874 | 45,874 | 26,021 | .. | 71,895 |
| 5 Pelandorai anicut system | 6,92,074 | .. | 1,699 | .. | 278 | 1,977 | 65,590 | 48 | 67,519 |
| 6 Palar anicut system | 24,89,275 | .. | 612 | .. | 5,440 | 6,052 | 3,85,340 | 8 | 3,91,384 |

**C-IV.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47 based on the assessment for the year—*cont.***

| Works or systems. | Capital outlay (direct and indirect) to end of the year. | Revenue assessed during the year. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Direct revenue. | | | | | Indirect revenue and land revenue due to operations of canal. | Less refunds of revenue. | Grand total. |
| | | Owner's rates. | Plantations. | Navigation. | Miscellaneous. | Total. | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| A. IRRIGATION WORKS—*cont.* | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| 2. UNPRODUCTIVE WORKS—*cont.* | | | | | | | | | |
| 7 Muniyeru anicut system | 6,09,601 | .. | .. | .. | 1,695 | 1,695 | 52,383 | .. | 54,078 |
| 8 Dondapad tank | 1,40,004 | .. | .. | .. | .. | .. | 2,550 | .. | 2,550 |
| 9 Yerur tank | 63,353 | .. | .. | .. | .. | .. | 3,947 | .. | 3,947 |
| 10 Sagileru system | 4,64,727 | .. | 3 | .. | 150 | 153 | 25,623 | .. | 25,776 |
| 11 Atmakur tank | 1,28,277 | .. | .. | .. | 72 | 72 | 2,220 | .. | 2,292 |
| 12 Jangamaheswarapuram tank | 71,664 | .. | .. | .. | 241 | 241 | 994 | .. | 1,235 |
| 13 Anamasamudram-Beraperu tank | 73,573 | .. | .. | .. | .. | .. | 4,717 | .. | 4.717 |
| 14 Hajipuram tank | 3,11,883 | .. | .. | .. | .. | .. | 4,923 | .. | 4,923 |
| 15 Ponnalur tank | 2,18,649 | .. | .. | .. | .. | .. | 4,384 | .. | 4,384 |
| 16 Markapur tank | 1,29,340 | .. | .. | .. | 16 | 16 | 11,074 | .. | 11,090 |
| 17 Nagavalli river system | 18,01,983 | .. | .. | .. | 430 | 430 | 1,37,548 | .. | 1,37,978 |
| 18 Venkatapuram tank | 3,84,921 | .. | .. | .. | .. | .. | 4,504 | .. | 4,504 |
| 19 Bhavanasi tank | 2,65,491 | .. | 13 | .. | .. | 13 | 7,200 | .. | 7,213 |
| 20 Yellamur tank | 2,69,707 | .. | .. | .. | .. | .. | 3,079 | .. | 3,079 |
| 21 Panjapatti reservoir project | 3,39,276 | .. | .. | .. | 100 | 100 | .. | .. | 100 |
| 22 Siddapur tank | 8,04,486 | .. | .. | .. | 52 | 52 | 6,897 | .. | 6,949 |
| 23 Nagavaram anicut and supply project | 1,09,890 | .. | .. | .. | 7 | 7 | 3,861 | .. | 3,868 |
| 24 Mopad reservoir system | 24,28,929 | .. | .. | .. | 161 | 161 | 37,326 | .. | 37,487 |
| 25 Kanniyampalaiyam anicut | 1,11,074 | .. | .. | .. | .. | .. | 2,574 | .. | 2,574 |
| 26 Toludur reservoir project | 26,22,781 | .. | 1,444 | .. | 685 | 2,129 | 1,39,062 | .. | 1,41,191 |
| 27 Tippayapalem project | 5,84,216 | .. | .. | .. | .. | .. | 6,636 | .. | 6,636 |
| 28 Basavanna channel | 5,89,780 | .. | 9 | .. | .. | 9 | 99,169 | .. | 99,178 |
| 29 Duvvaleru project | 1,47,291 | .. | .. | .. | .. | .. | .. | .. | .. |
| 30 Uduthorahalla scheme | 1,56,517 | .. | .. | .. | .. | .. | .. | .. | .. |
| 31 Mahadevapuram tank project | 14,425 | .. | .. | .. | .. | .. | .. | .. | .. |
| 32 Tungabhadra project | 64,43,562 | .. | .. | .. | .. | .. | .. | .. | .. |
| 33 Kistna delta system—Romperu drain | 2,61,898 | .. | .. | .. | .. | .. | .. | .. | .. |
| 34 Lower Bhavani project | 2,045 | .. | .. | .. | .. | .. | .. | .. | .. |
| Total, A. Irrigation Works—2. Unproductive Works. | 4,85,34,554 | .. | 10,575 | 167 | 63,613 | 74,355 | 14,76,743 | 187 | 15,50,911 |
| Total, A. Irrigation, etc., Works | 20,53,82,469 | 264 | 80,031 | 6,15,154 | 4,58,842 | 11,54,027* | 2,58,79,827 | 19,368 | 2,70,14,486 |
| B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS. | | | | | | | | | |
| 2. UNPRODUCTIVE WORKS. | | | | | | | | | |
| 1 Vedaranniyam canal | 1,36,432 | .. | 21 | 1,033 | .. | 1,054 | .. | .. | 1,054 |
| 2 Buckingham canal | 95,71,797 | .. | 1,225 | 1,30,161 | 14,213 | 1,46,199 | .. | 60 | 1,46,139 |
| Total, B. Navigation, etc., Works—2. Unproductive Works. | 97,08,229 | .. | 1,246 | 1,31,794 | 14,213 | 1,47,253 | .. | 60 | 1,47,193 |
| Total, Construction of Irrigation, etc., Works | 21,50,90,698 | 264 | 81,277 | 7,46,948 | 4,73,055 | 13,01,280* | 2,58,79,827 | 19,428 | 2,71,61,679 |

* Excludes Rs. 91 pending classification by systems, and details are awaited from the treasury.

C-IV.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47 based on the assessment for the year—*cont.*

| Works or systems. | Revenue assessed during the year—*cont.* | | | | | Net revenue of the year. | | Percentage on capital outlay to end of the year (improvements only). |
|---|---|---|---|---|---|---|---|---|
| | Deduct share due to old irrigation. | Total revenue due to improvements. | Working expenses. | | | Total. | Due to improvements. | |
| | | | Total charges (direct and indirect). | Deduct old maintenance charges. | Total working expenses on improvements. | | | |
| | (11) RS. | (12) RS. | (13) RS. | (14) RS. | (15) RS. | (16) RS. | (17) RS. | (18) RS. |
| **A. IRRIGATION WORKS—*cont.*** | | | | | | | | |
| **1. PRODUCTIVE WORKS—*cont.*** | | | | | | | | |
| 1 Cauvery delta system | 38,09,402 | 16,51,491 | 19,02,021 | 13,37,528 | 5,64,493 | 35,58,872 | 10,86,998 | 12·47 |
| 2 Srivaikuntam anicut system | 79,000 | 1,87,519 | 96,913 | 8,437 | 88,476 | 1,69,606 | 99,043 | 5·58 |
| 3 Godavari delta system | 1,24,000 | 61,71,120 | 21,69,227 | .. | 21,69,227 | 41,25,893 | 40,01,893 | 18·22 |
| 4 Mehamattur anicut system | 4,000 | 25,767 | 13,123 | 824 | 12,299 | 16,644 | 13,468 | 15·45 |
| 5 Thadepalli channel system | 76,000 | 1,05,397 | 34,031 | 4,890 | 29,141 | 1,47,366 | 76,256 | 42·97 |
| 6 Kalingarayan channel system | 85,000 | 53,042 | 24,748 | 5,469 | 19,279 | 1,13,294 | 33,763 | 18·71 |
| 7 Vriddhachalam anicut system | 8,500 | 38,998 | 18,515 | .. | 18,515 | 28,983 | 20,483 | 18·93 |
| 8 Chembrambakkam tank system | 16,000 | 45,393 | 19,536 | 6,488 | 13,048 | 41,857 | 32,345 | 4·23 |
| 9 Marudur anicut system | 1,15,000 | 1,05,438 | 23,295 | 7,133 | 16,162 | 1,97,143 | 89,276 | 148·49 |
| 10 Pennar river canals system | 2,56,000 | 7,61,048 | 3,81,168 | 35,756 | 3,45,412 | 6,35,880 | 4,15,636 | 5·88 |
| 11 Arkenkota channel system | 19,000 | 31,825 | 11,803 | 1,224 | 10,579 | 39,022 | 21,246 | 14·71 |
| 12 Tirukkoyilur anicut system | 60,000 | 81,604 | 68,041 | 6,396 | 61,645 | 73,563 | 19,959 | 5·00 |
| 13 Shatiatope anicut system | 20,000 | 1,69,589 | 71,136 | 2,133 | 69,003 | 1,18,453 | 1,00,586 | 9·23 |
| 14 Cheyyar anicut system | 39,000 | 82,685 | 75,647 | 4,393 | 71,254 | 46,038 | 11,431 | 2·12 |
| 15 Cumbum tank system | 30,000 | 13,407 | 5,545 | 1,406 | 4,139 | 37,862 | 9,268 | 10·73 |
| 16 Poiney anicut system | 38,100 | 88,020 | 73,400 | 4,294 | 69,106 | 52,720 | 18,914 | 6·22 |
| 17 Periyar system | 2,04,000 | 9,86,446 | 3,73,364 | 39,301 | 3,34,063 | 8,17,082 | 6,52,383 | 6·02 |
| 18 Kistna delta system | 71,000 | 58,50,260 | 21,54,619 | .. | 21,54,619 | 37,66,641 | 36,95,641 | 16·20 |
| 19 Nandiyar channel system | 17,000 | 17,911 | 21,510 | 4,159 | 17,351 | 13,401 | 560 | 0·85 |
| 20 Chicacole minor rivers system | 95,000 | 1,02,705 | 74,519 | 5,643 | 68,876 | 1,23,186 | 33,829 | 11·70 |
| 21 Lower Coleroon anicut system | 1,55,000 | 5,04,719 | 2,38,981 | 9,442 | 2,29,539 | 4,20,738 | 2,75,180 | 9·17 |
| 22 Kistna east bank canal extension scheme | 20,300 | 6,74,998 | 2,17,223 | 15,719 | 2,01,504 | 4,78,075 | 4,73,494 | 8·09 |
| 23 Polavaram island project | .. | 1,76,559 | 82,656 | .. | 82,656 | 93,903 | 93,903 | 5·51 |
| 24 Cauvery-Mettur project | 99,971 | 16,43,067 | 6,58,939 | 14,784 | 6,44,155 | 10,84,099 | 9,98,912 | 1·54 |
| 25 Kattalai scheme | 2,54,000 | 1,99,294 | 1,06,677 | 62,897 | 43,780 | 3,46,617 | 1,55,514 | 3·75 |
| Total, A. Irrigation Works—1. Productive Works. | 56,95,273 | 1,97,68,302 | 89,16,687 | 15,78,316 | 73,38,321 | 1,65,46,938 | 1,24,29,981 | 7·92 |
| **2. UNPRODUCTIVE WORKS—*cont.*** | | | | | | | | |
| 1 Kurnool-Cuddapah canal | 35,872 | 3,82,120 | 2,31,338 | 5,301 | 2,26,037 | 1,86,654 | 1,56,083 | 0·67 |
| 2 Barur tank | 5,900 | 24,484 | 9,027 | .. | 9,027 | 21,357 | 15,457 | 3·42 |
| 3 Vallur anicut | 5,000 | 988 | 9,489 | 1,571 | 7,918 | — 3,501 | — 6,930 | — 9·08 |
| 4 Madras water-supply and irrigation system | 11,000 | 60,895 | 29,980 | 4,582 | 25,398 | 41,915 | 35,497 | 1·90 |
| 5 Pelandorai anicut system | 3,000 | 64,519 | 33,231 | 150 | 33,081 | 34,288 | 31,438 | 4·54 |
| 6 Palar anicut system | 1,25,000 | 2,66,384 | 3,82,560 | 4,230 | 3,78,330 | 8,824 | — 1,11,946 | — 4·50 |
| 7 Muniyeru anicut system | 2,500 | 51,578 | 19,719 | 286 | 19,433 | 34,359 | 32,145 | 5·27 |
| 8 Dondapad tank | .. | 2,550 | 7,180 | .. | 7,180 | — 4,630 | — 4,630 | — 3·31 |
| 9 Yerur tank | 425 | 3,522 | 3,889 | .. | 3,889 | 58 | — 367 | — 0·58 |
| 10 Sagileru system | 17,800 | 7,976 | 9,292 | 3,874 | 5,418 | 16,484 | 2,558 | 0·55 |
| 11 Atmakur tank | .. | 2,292 | 3,599 | .. | 3,599 | — 1,307 | — 1,307 | — 1·02 |

**C-IV.—Statement showing the financial results of irrigation, navigation, embankment and drainage works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1946–47 based on the assessment for the year—*cont.***

| Works or systems. | Revenue assessed during the year—*cont.* | | | | | Net revenue of the year. | | Percentage on capital outlay to end of the year (improvements only). |
|---|---|---|---|---|---|---|---|---|
| | | | Working expenses. | | | | | |
| | Deduct share due to old irrigation. | Total revenue due to improvements. | Total charges (direct and indirect). | Deduct old maintenance charges. | Total working expenses on improvements. | Total. | Due to improvements. | |
| | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
| **A. IRRIGATION WORKS—*cont.*** | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| **2. UNPRODUCTIVE WORKS—*cont.*** | | | | | | | | |
| 12 Jangamaheswarapuram tank | 500 | 735 | 294 | .. | 294 | 941 | 441 | 0·62 |
| 13 Anamasamudram Beraperu tank | 3,600 | 1,117 | 929 | 772 | 157 | 3,788 | 960 | 1·30 |
| 14 Hajipuram tank | .. | 4,923 | 1,027 | .. | 1,027 | 3,896 | 3,896 | 1·25 |
| 15 Ponnalur tank | .. | 4,384 | 1,276 | .. | 1,276 | 3,108 | 3,108 | 1·42 |
| 16 Markapur tank | 2,130 | 8,960 | 6,831 | 428 | 6,403 | 4,259 | 2,557 | 1·98 |
| 17 Nagavalli river system | 37,400 | 1,00,578 | 62,644 | 3,509 | 59,135 | 75,334 | 41,443 | 2·30 |
| 18 Venkatapuram tank | .. | 4,504 | 1,916 | .. | 1,916 | 2,588 | 2,588 | 0·67 |
| 19 Bhavanasi tank | .. | 7,213 | 6,385 | .. | 6,385 | 828 | 828 | 0·31 |
| 20 Yellmur tank | .. | 3,079 | 1,075 | .. | 1,075 | 2,004 | 2,004 | 0·74 |
| 21 Panjapatti reservoir project | .. | 100 | 1,484 | .. | 1,484 | − 1,384 | − 1,384 | − 0·41 |
| 22 Siddapur tank | .. | 6,949 | 2,886 | .. | 2,886 | 4,063 | 4,063 | 0·51 |
| 23 Nagavaram anicut and supply channel | 2,256 | 1,612 | 3,267 | .. | 3,267 | 601 | − 1,655 | − 1·51 |
| 24 Mopad reservoir system | 433 | 37,054 | 22,303 | .. | 22,303 | 15,184 | 14,751 | 0·61 |
| 25 Kanniyampalayam anicut | .. | 2,574 | 1,256 | .. | 1,256 | 1,318 | 1,318 | 1·19 |
| 26 Tholudur reservoir project | 10,590 | 1,30,601 | 59,485 | .. | 59,485 | 81,706 | 71,116 | 2·71 |
| 27 Tippayapalem project | .. | 6,636 | 2,361 | .. | 2,361 | 4,275 | 4,275 | 0·73 |
| 28 Basavanna channel | .. | 99,178 | 17,738 | .. | 17,738 | 81,440 | 81,440 | 13·76 |
| 29 Duvvaleru project | .. | .. | 2,461 | .. | 2,461 | − 2,461 | − 2,461 | − 1·67 |
| 30 Uduthorahalla scheme | .. | .. | .. | .. | .. | .. | .. | .. |
| 31 Mahadevapuram tank project | .. | .. | .. | .. | .. | .. | .. | .. |
| 32 Tungabhadra project | .. | .. | .. | .. | .. | .. | .. | .. |
| 33 Kistna delta system—Romperu Drain | .. | .. | .. | .. | .. | .. | .. | .. |
| 34 Lower Bhavani project | .. | .. | .. | .. | .. | .. | .. | .. |
| **Total, A. Irrigation Works—2. Unproductive Works.** | 2,63,406 | 12,87,505 | 9,34,922 | 24,703 | 9,10,219 | 6,15,989 | 3,77,286 | 0·78 |
| **Total, A. Irrigation, etc., Works** | 59,58,679 | 2,10,55,807 | 98,51,559 | 16,03,019 | 82,48,540 | 1,71,62,927 | 1,28,07,267 | 6·24 |
| **B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS—*cont.*** | | | | | | | | |
| **2. UNPRODUCTIVE WORKS—*cont.*** | | | | | | | | |
| 1 Vedaranniyam canal | .. | 1,054 | 15,035 | .. | 15,035 | − 13,981 | − 13,981 | − 10·25 |
| 2 Buckingham canal | .. | 1,46,139 | 7,21,387 | .. | 7,21,387 | − 5,75,248 | − 5,75,248 | − 6·01 |
| **Total, B. Navigation, etc., Works—2. Unproductive Works.** | .. | 1,47,193 | 7,36,422 | .. | 7,36,422 | − 5,89,229 | − 5,89,229 | − 6·07 |
| **Total, Construction of Irrigation, etc., Works** | 59,58,679 | 2,12,03,000 | 1,05,87,981 | 16,03,019 | 89,84,962 | 1,65,73,698 | 1,22,18,038 | 5·69 |

## D-I.—Statement of traffic on the principal navigable canals in the Madras Province during the year 1946–47.

| (1) | | Godavari canals. (2) | Kistna canals. (3) | Kistna East Bank canal. (4) | Kurnool-Cuddapah canal. (5) | Buckingham canal. (6) | West Coast canal. (7) | Dummagudem canal. (8) | Vedaranniyam canal. (9) | Total. (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| Length of canals open for navigation | Miles. | 498½ | 384½ | 35½ | .. | 261½ | 78½ | 2 | 31½ | .. |
| **Receipts—** | | | | | | | | | | |
| Tolls | Rs. | .. | .. | .. | .. | .. | 31,915 | .. | .. | .. |
| Testing fees | ,, | 56 | 888 | .. | .. | 187 | .. | .. | .. | .. |
| Annual licence fees | ,, | 1,09,597 | 58,536 | 990 | .. | 92,905 | 10,725 | 1,131 | 1,028 | .. |
| Six weeks' licence fees | ,, | | 25,523 | 374 | .. | | | | 5 | .. |
| Registration fees | ,, | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Wharfage fees | ,, | 16,065 | 32,479 | 830 | .. | 18,380 | 1,375 | .. | .. | .. |
| Demurrage fees | ,, | 39 | 1,410 | 83 | .. | 204 | .. | .. | .. | .. |
| Raft fees | ,, | 19,825 | 69 | .. | .. | 45 | 190 | 10,144 | .. | .. |
| Numbering fees | ,, | 111 | .. | .. | .. | 707 | 326 | .. | .. | .. |
| Fines | ,, | .. | .. | .. | .. | 2,090 | .. | .. | .. | .. |
| Ground rents | ,, | 18,211 | 65,049 | 232 | .. | .. | .. | 11 | .. | .. |
| Miscellaneous | ,, | 2,915 | 920 | .. | 10,216 | 13,478 | 1,303 | .. | 21 | .. |
| Refunds | ,, | — 1 | — 5,502 | .. | 119 | — 60 | .. | .. | .. | .. |
| Government boats and steamers | ,, | 14,641 | 16,524 | .. | .. | .. | .. | .. | .. | .. |
| Boat rent | ,, | 265 | 360 | .. | .. | 105 | .. | .. | .. | .. |
| Other refunds | ,, | 253 | .. | .. | .. | .. | .. | .. | .. | .. |
| Duplicate fees | ,, | 44 | .. | .. | .. | .. | 25 | .. | .. | .. |
| Hire on punts | ,, | .. | 40 | .. | .. | .. | .. | .. | .. | .. |
| Berm rent | ,, | .. | .. | .. | .. | 17,928 | .. | .. | .. | .. |
| Total, Receipts | ,, | 1,82,021 | 1,96,296 | 2,509 | 10,097 | 1,45,969 | 45,859 | 11,286 | 1,054 | .. |
| Maintenance charges including navigation establishment | ,, | 2,55,913 | 3,27,593 | 33,150 | .. | 5,98,266 | 34,535 | 9,386 | 11,594 | .. |
| Net revenue | | — 73,892 | —1,31,297 | —30,641 | .. | —4,52,297 | 11,324 | 1,900 | — 10,540 | .. |
| Total number of boats plying, cargo | Tons. | 147,627 | 9,342 | 542 | .. | .. | 10,778 | .. | 110 | .. |
| Total number of boats plying, passengers | Tons. | | | 64 | .. | .. | 6,567 | 243 | .. | |
| Total tonnage, cargo boats | Tons. | 1,156,431 | 567,134 | 16,802 | .. | .. | 1,68,218 | .. | 7,276 | .. |
| Total tonnage, passenger boats | Tons. | | | 3,160 | .. | .. | 19,705 | 1,782 | .. | .. |
| Ton mileage, up | ,, | 8,999,427 | 10,037,476 | 299,646 | .. | 263,492½ | .. | 1,000 | 25,431 | .. |
| Ton mileage, down | ,, | | 11,209,763 | 998,600 | .. | | .. | 2 457 | 96,336 | .. |
| Total | | 8,999,427 | 21,247,239 | 1,298,246 | .. | 263,492½ | | 3,457 | .. | .. |
| Estimated value of cargoes, up | Rs. | 19,62,25,076 | 15,27,53,899 | 43,84,123 | .. | 8,64,57,426 | 2,49,90,419 | 16,07,372 | 20,06,894 | .. |
| Estimated value of cargoes, down | Rs. | | | | | | 4,71,61,106 | | | |
| Total | | 19,62,25,076 | 15,27,53,899 | 43,84,123 | .. | 8,64,57,426 | 7,21,51,525 | .. | 20,06,894 | .. |
| Number of passengers | | .. | 1,59,584 | .. | .. | 88,529 | 98,525 | .. | .. | .. |
| Rafts, tons, up | | 81,503 | 4,093 | 44,534 | .. | .. | .. | .. | .. | .. |
| Rafts, tons, down | | | | | .. | .. | 300 | 42,494 | .. | .. |
| Total | | .. | 4,093 | 44,534 | .. | .. | .. | .. | .. | .. |
| Estimated value of cargoes on rafts | Rs. | 3,57,64,260 | 18,88,155 | .. | .. | .. | .. | 2,18,15,600 | .. | .. |
| Tollage on boats, per ton, per mile | ,, | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Tollage on rafts, per 100 sq.ft. | ,, | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Timber | ,, | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bamboo | ,, | .. | .. | .. | .. | .. | .. | .. | .. | .. |

## D-II.—Description and quantity of goods, etc., carried on the principal canals in the Madras Province during the year 1946–47.

| Description. | Godavari canals. | | | | | | Kistna canals. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total, Government and private. | | | | Private. | | Total, Government and private. | | | |
| | Quantity. | | | Value. | Quantity. | Value. | Quantity. | | | Value. |
| | Up. | Down. | Total. | | | | Up. | Down. | Total. | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| | TONS. | TONS. | TONS. | RS. | TONS. | RS. | TONS. | TONS. | TONS. | RS. |
| *Boat traffic.* | | | | | | | | | | |
| Cotton, raw and manufactured | 268 | 397 | 665 | 9,79,800 | 665 | 9,79,800 | 171 | 212 | 383 | 5,85,306 |
| Woollen goods | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Dyes and tans | 221 | 417 | 538 | 42,56,000 | 538 | 42,56,000 | 60 | 46 | 106 | 5,30,351 |
| Rice and paddy | 81,310 | 15,371 | 96,681 | 2,01,18,754 | 96,681 | 2,01,18,754 | 14,952 | 2,465 | 17,417 | 60,08,865 |
| Other foodgrains | 2,077 | 7,023 | 9,100 | 45,86,400 | 9,100 | 45,86,400 | 32,014 | 14,328 | 46,342 | 91,89,571 |
| Hides and skins | . | 57 | 57 | 2,09,600 | 57 | 2,09,600 | 488 | 308 | 796 | 21,81,878 |
| Liquors | 121 | 1,751 | 1.872 | 1,06,70,400 | 1,872 | 1,06,70,400 | 718 | 417 | 1,135 | 38,14,735 |
| Metals | 2,638 | 1,662 | 4,300 | 47,95,701 | 4,300 | 47,95,701 | 274 | 231 | 505 | 16,55,596 |
| Oils | 1,510 | 2,541 | 4,051 | 89,68,914 | 4,051 | 89,68,914 | 1,740 | 3,766 | 5,506 | 9,08,490 |
| Oil-seeds | 3,096 | 2,085 | 5,181 | 62,17,200 | 5,181 | 62,17,200 | 3,766 | 27,935 | 31,701 | 2,73,57,963 |
| Provisions | 49,143 | 37,026 | 86,169 | 12,92,53,500 | 86,169 | 12,92,53,500 | 22,941 | 18,733 | 41,674 | 4,20 49,066 |
| Salt | 8,573 | 1,234 | 9,807 | 9,61,086 | 9,807 | 9,61,086 | 2,036 | 942 | 2,978 | 3,24,602 |
| Spices | 461 | 397 | 858 | 48,90,600 | 858 | 48,90,600 | .. | 96 | 96 | 5,51,040 |
| Sugar and jaggery | 6,881 | 11,013 | 17,894 | 77,06,115 | 17,894 | 77,06,115 | 6,675 | 4,095 | 10,770 | 57,29,856 |
| Tobacco | 2,906 | 8,491 | 11,387 | 6,99,19,500 | 11,387 | 6,99,19,500 | 2,139 | 8,368 | 10,507 | 1,84,11,992 |
| Building materials | 76,986 | 232,116 | 309,102 | 39,90,297 | 309,102 | 39,90,297 | 1,26,261 | 270,696 | 396,957 | 3,22,81,541 |
| Miscellaneous goods | 35,571 | 15,265 | 50,836 | 2,91,27,535 | 50,836 | 2,91,27,535 | 55 | 206 | 261 | 11,73,047 |
| Timber | 4,413 | 11,675 | 16,088 | 96,52,800 | 16,088 | 96,52,800 | . | .. | .. | . |
| Firewood | 24,875 | 11,027 | 35,902 | 28,72,160 | 35,902 | 28,72,160 | . | .. | .. | .. |
| Bamboos | 76 | 24,048 | 24,124 | 60,31,000 | 24,124 | 60,31,000 | .. | .. | .. | .. |
| Coal and coke | 490 | 97 | 587 | 1,76,100 | 587 | 1,76,100 | .. | .. | .. | .. |
| Jute | 3 | .. | 3 | 2.550 | 3 | 2,550 | .. | .. | .. | .. |
| Treasure | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Kerosene oil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cotton seeds | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Poles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scantlings | .. | .. | .. | .. | .. | .. | .. | .. | 7 | .. |
| Total, Boat traffic | 301,519 | 383,693 | 685,212 | 27,32,43,612 | 685,212 | 27,32,43,612 | 214,290 | 352,844 | 567,134 | 15,27,53,899 |
| *Raft traffic.* | | | | | | | | | | |
| Timber in logs | 31 | 51,776 | 51,807 | 2,84,93,850 | 51,807 | 2,84,93,850 | 1,293 | 2,469 | 3,762 | 17,26,758 |
| Squared timber | 6 | 48 | 54 | 29,700 | 54 | 29,700 | .. | 173 | 173 | 1,02,243 |
| Sleepers, broad gauge | 4 | .. | 4 | 2,000 | 4 | 2,000 | .. | .. | .. | .. |
| Do. metre gauge | | | | | | | | | | |
| Scantlings | 20 | 23 | 43 | 13,760 | 43 | 13,760 | 131 | 20 | 151 | 54,209 |
| Poles | 10 | .. | 10 | 700 | 10 | 700 | .. | .. | .. | .. |
| Firewood | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bamboos and reeds | 30 | 30,141 | 30,171 | 75,42,750 | 30,171 | 75,42,750 | .. | 7 | .. | 945 |
| Total, Raft traffic | 101 | 81,988 | 82,089 | 3,60,82,760 | 82,089 | 3,60,82,760 | 1,424 | 2,669 | 4,093 | 18,84,155 |
| Grand total | 301,620 | 465,681 | 767,301 | 30,93,26,372 | 767,301 | 30,93,26,372 | 215,714 | 355,513 | 571,227 | 15,46,38,054 |

## D-II.—Description and quantity of goods, etc., carried on the principal canals in the Madras Province during the year 1946–47—*cont.*

| Description. | Kistna canals—*cont.* | | Kistna East bank canal. | | | | | | Kurnool-Cuddapah canal. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Private. | | Total, Government and private. | | | | Private. | | Total, Government and private. | | | | Private. | |
| | | | Quantity. | | | | | | Quantity. | | | | | |
| | Quantity. | Value. | Up. | Down. | Total. | Value. | Quantity. | Value. | Up. | Down. | Total. | Value. | Quantity. | Value. |
| | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) | (25) |
| | TONS. | RS. | TONS. | TONS. | TONS. | RS. | TONS. | RS. | | | | | | |
| *Boat traffic.* | | | | | | | | | | | | | | |
| Cotton, raw and manufactured | 383 | 5,85,306 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Woollen goods | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Dyes and tans | 106 | 5,30,351 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Rice and paddy | 17,417 | 60,08,865 | 6,766 | .. | 6,766 | 22,45,037 | 6,766 | 22,45,037 | .. | .. | .. | .. | .. | .. |
| Other foodgrains | 46,342 | 91,89,571 | 189 | .. | 189 | 92,043 | 189 | 92,043 | .. | .. | .. | .. | .. | .. |
| Hides and skins | 796 | 21,81,878 | 12 | .. | 12 | 32,244 | 12 | 32,244 | .. | .. | .. | .. | .. | .. |
| Liquors | 1,135 | 38,14,735 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Metals | 505 | 16,55,596 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Oils | 5,506 | 9.08,490 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Oil-seeds | 31,701 | 2,73,57,963 | 7 | .. | 7 | 6,041 | 7 | 6,041 | .. | .. | .. | .. | .. | .. |
| Provisions | 41,674 | 4.20,49,066 | 351 | .. | 351 | 3,54,159 | 351 | 3,54,159 | .. | .. | .. | .. | .. | .. |
| Salt | 2,978 | 3.24,602 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Spices | 96 | 5,51,040 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Sugar and jaggery | 10,770 | 57,29,856 | 2 | .. | 2 | 1,064 | 2 | 1,064 | .. | .. | .. | .. | .. | .. |
| Tobacco | 10,507 | 1,84,11,992 | 565 | .. | 565 | 11,81,531 | 565 | 11,81,531 | .. | .. | .. | .. | .. | .. |
| Building materials | 396,957 | 3,22,81,541 | 802 | 7,841 | 8,643 | 88,608 | 8,643 | 88,608 | .. | .. | .. | .. | .. | .. |
| Miscellaneous goods | 261 | 11,73,047 | 2,963 | 460 | 3,423 | 3,82,720 | 3,423 | 3,82,720 | .. | .. | .. | .. | .. | .. |
| Timber | .. | .. | .. | 1 | 1 | 571 | 1 | 571 | .. | .. | .. | .. | .. | .. |
| Firewood | .. | .. | 3 | .. | 3 | 105 | 3 | 105 | .. | .. | .. | .. | .. | .. |
| Bamboos | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Coal and coke | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Jute | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Treasure | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Kerosene oil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cotton seeds | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Poles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scantlings | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total, Boat traffic | 567,134 | 15,27,53,899 | 11,660 | 8,302 | 19,962 | 43,84,123 | 19,962 | 43,84,123 | .. | .. | .. | .. | .. | .. |
| *Raft traffic.* | | | | | | | | | | | | | | |
| Timber in logs | 3,762 | 17,26,758 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Squared timber | 173 | 1,02,243 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Sleepers, broad gauge | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Do. metre gauge | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scantlings | 151 | 54,209 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Poles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Firewood | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bamboos and reeds | 7 | 945 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total, Raft traffic | 4,093 | 18,84,155 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Grand total | 571,227 | 15,46,38,054 | 11,660 | 8,302 | 19,962 | 43,84,123 | 19,962 | 43,84,123 | .. | .. | .. | .. | .. | .. |

## D-II.—Description and quantity of goods, etc., carried on the principal canals in the Madras Province during the year 1946–47—*cont.*

| Description. | Buckingham canal. | | | | | | West Coast canals. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total, Government and private. | | | | Private. | | Total, Government and private. | | | | Private. | |
| | Quantity. | | | Value. | Quantity. | Value. | Quantity. | | | Value. | Quantity. | Value. |
| | Up. | Down. | Total. | | | | Up. | Down. | Total. | | | |
| | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | (34) | (35) | (36) | (37) |
| *Boat traffic.* | TONS. | TONS. | TONS. | RS. | TONS. | RS. | TONS. | TONS. | TONS. | RS. | TONS. | RS. |
| Cotton, raw and manufactured | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Woollen goods | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Dyes and tans | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Rice and paddy | 13,785 | 1,193 | 14,978 | 40,24,485 | 14,978 | 40,24,485 | 4,930 | 19,600 | 24,530 | 79,21,144 | 24,530 | 79,21,144 |
| Other foodgrains | 8,100 | 1,381 | 9,481 | 18,96,200 | 9,481 | 18,96,200 | 2 | 8,897 | 8,899 | 47,16,470 | 8,899 | 47,16,470 |
| Hides and skins | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Liquors | 1,508 | 298 | 1,806 | 72,24,000 | 1,806 | 72,24,000 | 1,871 | 37 | 1,908 | 78,03,720 | 1,908 | 78,03,720 |
| Metals | 44 | 376 | 420 | 8,40,000 | 420 | 8,40,000 | 611 | 81 | 692 | 40,68,960 | 692 | 40,68,960 |
| Oils | 136 | 83 | 219 | 32,850 | 219 | 32,850 | 1,593 | 257 | 1,850 | 30,21,050 | 1,850 | 30,21,050 |
| Oil-seeds | 2,937 | 8,897 | 11,834 | 82,83,800 | 11,834 | 82,83,800 | 182 | 2,990 | 3,172 | 20,42,768 | 3,172 | 20,42,768 |
| Provisions | 5,707 | 1,163 | 6,870 | 85,49,000 | 6,870 | 85,49,000 | 1,525 | 16,858 | 18,383 | 1,80,15,340 | 18,383 | 1,80,15,340 |
| Salt | 36,843 | 13,633 | 50,476 | 65,61,880 | 50,476 | 65,61,880 | 1,298 | 4,001 | 5,299 | 5,08,704 | 5,299 | 5,08,704 |
| Spices | 3,088 | 30½ | 3,118½ | 43,65,925 | 3,118½ | 43,65,925 | 290 | 369 | 659 | 37,87,273 | 659 | 37,87,273 |
| Sugar and jaggery | 531 | 4 | 535 | 2,67,500 | 535 | 2,67,500 | 48 | 3,353 | 3,401 | 13,71,613 | 3,401 | 13,71,613 |
| Tobacco | 7,149 | .. | 7,149 | 1,28,68,200 | 7,149 | 1,28,68,200 | 1,058 | 388 | 1,446 | 21,51,648 | 1,446 | 21,51,648 |
| Building materials | 36,511 | 2,073 | 38,584 | 36,51,545 | 38,584 | 36,51,545 | 2,150 | 2,435 | 4,585 | 1,05,174 | 4,585 | 1,05,174 |
| Miscellaneous goods | 21,702 | 5,957 | 27,659 | 2,42,80,330 | 27,659 | 2,42,80,330 | 14,994 | 63,160 | 78,154 | 1,52,23,807 | 78,154 | 1,52,23,807 |
| Timber | 4,393 | 245 | 4,638 | 3,93,510 | 4,638 | 3,93,510 | 75 | 2,539 | 2,614 | 12,19,921 | 2,614 | 12,19,921 |
| Firewood | 73,540 | 8,101 | 81,641 | 25,30,871 | 81,641 | 25,30,871 | 577 | 264 | 841 | 30,276 | 841 | 30,276 |
| Bamboos | 1,788 | 1 | 1,789 | 3,57,800 | 1,789 | 3,57,800 | 14 | 575 | 589 | 65,968 | 589 | 65,968 |
| Coal and coke | 2,005 | 46 | 2,051 | 3,07,650 | 2,051 | 3,07,650 | .. | 575 | 575 | 65,550 | 575 | 65,550 |
| Jute | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Treasure | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Kerosene oil | .. | 20 | 20 | 4,800 | 20 | 4,800 | 2,178 | 232 | 2,410 | 5,30,200 | 2,410 | 5,30,200 |
| Cotton seeds | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Poles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scantlings | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total, Boat traffic | 219,767 | 43,501½ | 263,268½ | 8,64,40,346 | 263,268½ | 8,64,40,346 | 33,396 | 126,611 | 1,60,007 | 7,26,49,586 | 1,60,007 | 7,26,49,586 |
| *Raft traffic.* | | | | | | | | | | | | |
| Timber in logs | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Squared timber | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Sleepers, broad gauge | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Do. metre gauge | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scantlings | 195 | 3 | 198 | 11,880 | 198 | 11,880 | .. | .. | .. | .. | .. | .. |
| Poles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Firewood | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bamboos and reeds | 26 | .. | 26 | 5,200 | 26 | 5,200 | .. | .. | .. | .. | .. | .. |
| Total, Raft traffic | 221 | 3 | 224 | 17,080 | 224 | 17,080 | .. | .. | .. | .. | .. | .. |
| Grand total | 219,988 | 43,504½ | 263,492½ | 8,64,57,426 | 263,492½ | 8,64,57,426 | 33,396 | 126,611 | 160,007 | 7,26,49,586 | 160,007 | 7,26,49,586 |

## D-II.—Description and quantity of goods, etc., carried on the principal canals in the Madras Province during the year 1946–47—*cont.*

| Description. | Dummagudem canal. | | | | | | Vedaranyam canal. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total, Government and private. | | | | Private. | | Total, Government and private. | | | | Private. | |
| | Quantity. | | | | | | Quantity. | | | | | |
| | Up. | Down. | Total. | Value. | Quantity. | Value. | Up. | Down. | Total. | Value. | Quantity. | Value. |
| | (38) | (39) | (40) | (41) | (42) | (43) | (44) | (45) | (46) | (47) | (48) | (49) |
| *Boat traffic.* | TONS. | TONS. | TONS. | RS. | TONS. | RS. | TONS. | TONS. | TONS. | RS. | TONS. | RS. |
| Cotton, raw and manufactured | .. | .. | .. | .. | .. | .. | .. | 60½ | 60½ | 81,065 | 60½ | 81,065 |
| Woollen goods | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Dyes and tans | .. | 39 | 39 | 2,34,000 | 39 | 2,34,000 | .. | .. | .. | .. | .. | .. |
| Rice and paddy | .. | .. | .. | .. | .. | .. | 3 | 127 | 130 | 26,000 | 130 | 26,000 |
| Other foodgrains | .. | 207 | 207 | 1,04,328 | 207 | 1,04,328 | .. | .. | .. | .. | .. | .. |
| Hides and skins | .. | 3 | 3 | 9,300 | 3 | 9,300 | .. | .. | .. | .. | .. | .. |
| Liquors | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Metals | 2 | .. | 2 | 2,214 | 2 | 2,214 | .. | .. | .. | .. | .. | .. |
| Oils | 17 | 9 | 26 | 57,564 | 26 | 57,564 | .. | .. | .. | .. | .. | .. |
| Oil seeds | .. | 120 | 120 | 1,44,000 | 120 | 1,44,000 | .. | .. | .. | .. | .. | .. |
| Provisions | 15 | 25 | 40 | 60,000 | 40 | 60,000 | 32 | 102 | 134 | 1,31,320 | 134 | 1,31,320 |
| Salt | 192 | .. | 192 | 18,816 | 192 | 18,816 | 14 | 41 | 55 | 5,280 | 55 | 5,280 |
| Spices | .. | .. | .. | .. | .. | .. | 240 | .. | 240 | 13,79,280 | 240 | 13,79,280 |
| Sugar and jaggery | 33 | .. | 33 | 13,960 | 33 | 13,960 | .. | .. | .. | .. | .. | .. |
| Tobacco | .. | 446 | 446 | 6,69,000 | 446 | 6,69,000 | .. | 22 | 22 | 25,124 | 22 | 25,124 |
| Building materials | 2 | .. | 2 | 136 | 2 | 136 | 7 | 62 | 69 | 2,950 | 69 | 2,950 |
| Miscellaneous goods | 430 | 150 | 580 | 3,17,600 | 580 | 3,17,600 | 849 | 328 | 1,177 | 2,10,173 | 1,177 | 2,10,173 |
| Timber | .. | 11 | 11 | 6,600 | 11 | 6,600 | 1 | 146 | 147 | 61,690 | 147 | 61,690 |
| Firewood | .. | .. | .. | .. | .. | .. | .. | 4,638½ | 4,638½ | 15,750 | 4,638½ | 15,750 |
| Bamboos | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Coal and coke | .. | .. | .. | .. | .. | .. | .. | 598 | 598 | 68,172 | 598 | 68,172 |
| Jute | .. | 1 | 1 | 850 | 1 | 850 | .. | .. | .. | .. | .. | .. |
| Treasure | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Kerosene oil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cotton seeds | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Poles | .. | .. | .. | .. | .. | .. | .. | 5 | 5 | 90 | 5 | 90 |
| Scantlings | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total, Boat traffic | 691 | 1,011 | 1,702 | 16,38,368 | 1,702 | 16,38,368 | 1,146 | 6,130 | 7,276 | 20,06,894 | 7,276 | 20,06,894 |
| *Raft traffic.* | | | | | | | | | | | | |
| Timber in logs | .. | 30,357 | 30,357 | 1,66,96,350 | 30,357 | 1,66,96,350 | .. | .. | .. | .. | .. | .. |
| Squared timber | .. | 6,950 | 6,950 | 38,22,500 | 6,950 | 38,22,500 | .. | .. | .. | .. | .. | .. |
| Sleepers, broad gauge | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Do. metre gauge | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scantlings | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Poles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Firewood | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bamboos and reeds | .. | 5,187 | 5,187 | 12,96,750 | 5,187 | 12,96,750 | .. | .. | .. | .. | .. | .. |
| Total, Raft traffic | .. | 42,494 | 42,494 | 2,18,15,600 | 42,494 | 2,18,15,600 | .. | .. | .. | .. | .. | .. |
| Grand total | 691 | 43,505 | 44,196 | 2,34,53,968 | 44,196 | 2,34,53,968 | 1,146 | 6,130 | 7,276 | 20,06,894 | 7,276 | 20,06,894 |

E-I.—Statement of area irrigated under irrigation works classed as Productive and Unproductive for which Capital and Revenue Accounts are kept in the Madras Province during the year 1946–47.

| Name of canals. | Area charged as irrigated in acres. | | | | | | |
|---|---|---|---|---|---|---|---|
| | First crop. | | Second crop. | | Total. | Both seasons. | Percentage of double cropped area [columns (4) and (5)] on the first crop area columns (2) and (3)]. |
| | Flow. | Lift. | Flow. | Lift. | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Productive.* | | | | | | | |
| 1 Cauvery delta system .. | 859,448 | 27,233 | 141,384 | 4,782 | 1,032,847 | 16,951 | 16·48 |
| 2 Srivaikuntam anicut system. | 24,485 | 403 | 16,123 | 185 | 41,196 | 2,208 | 65·53 |
| 3 Godavari delta system .. | 833,735 | 22,914 | 337,856 | 12,361 | 1,20 ,866 | 29,762 | 40·88 |
| 4 Mehmattur anicut system. | 4 980 | 38 | 316 | 1 | 5,335 | 97 | 6·32 |
| 5 Thadepalle channel .. | 17,097 | 520 | 6,251 | 623 | 24,491 | 874 | 39·02 |
| 6 Kalingarayan channel .. | 9,808 | 2,692 | 9,172 | 1,889 | 23,561 | 2,780 | 88·49 |
| 7 Vriddhachalam anicut system. | 9,643 | 44 | 698 | 4 | 10,389 | 68 | 7·25 |
| 8 Chembarambakkam tank .. | 14,689 | 264 | 3,616 | 58 | 18,627 | 405 | 24·57 |
| 9 Marudur anicut system .. | 16,572 | 186 | 13,480 | 142 | 30,380 | 681 | 81·29 |
| 10 Pennar river canals system. | 162,887 | 3,593 | 30,375 | 1,263 | 198,118 | 9,254 | 18·40 |
| 11 Arkenkota channel | 4,599 | 209 | 945 | 42 | 5,795 | 6 | 20·53 |
| 12 Tirukkoyilur anicut system . | 27,043 | 1,239 | 4,287 | 296 | 32,865 | 531 | 16·20 |
| 13 Shatiatope anicut system .. | 31,754 | 625 | 7,986 | 296 | 40,661 | 111 | 25·58 |
| 14 Cheyyar anicut system . | 20,108 | 685 | 16,451 | 345 | 37,589 | 371 | 80·78 |
| 15 Cumbum tank .. .. | 5,487 | 101 | 4,055 | 275 | 9,918 | 339 | 77·49 |
| 16 Poiney anicut system .. | 21,202 | 424 | 8,697 | 397 | 30,620 | 1,041 | 42·05 |
| 17 Periyar system .. .. | 132,296 | 4,443 | 51,889 | 3,774 | 192,402 | 8,628 | 40·71 |
| 18 Kistna delta system .. | 942,053 | 28,938 | 15,689 | 935 | 987,615 | 13,178 | 1 71 |
| 19 Nandiyar channel system .. | 6,363 | 971 | 2,126 | 296 | 9,756 | 1,342 | 33·02 |
| 20 Lower Coleroon anicut system. | 109,777 | 1,593 | 9,115 | 387 | 120,872 | 2,045 | 8·08 |
| 21 Kistna East Bank Canal extension scheme. | 93,315 | 514 | 65 | 11 | 93,905 | 323 | 0·08 |
| 22 Polavaram Island project .. | 14,332 | 44 | 5,513 | 15 | 19,904 | 51 | 38·45 |
| 23 Cauvery-Mettur project .. | 155,252 | 7,350 | 29,931 | 2,560 | 195,093 | 5,832 | 20·29 |
| 24 Kattalai scheme .. .. | 50,131 | 2,512 | 16,734 | 903 | 70,280 | 7,121 | 33·50 |
| 25 Chicacole minor rivers system. | 73,224 | 2,138 | 7,347 | 1,630 | 84,339 | 789 | 11·91 |
| *Unproductive.* | | | | | | | |
| 1 Kurnool-Cuddapah canal .. | 82,490 | 323 | 10,180 | 389 | 93,382 | 2,286 | 12·76 |
| 2 Barur tank .. . .. | 3,943 | 49 | 2,518 | 33 | 6,543 | 494 | 63·65 |
| 3 Vallur anicut system .. | 3,196 | 6 | 87 | 5 | 3,294 | 58 | 2·87 |
| 4 Madras water-supply and irrigation system. | 6,830 | 272 | 2,967 | 165 | 10,234 | 305 | 44·10 |
| 5 Pelandorai anicut system .. | 12,814 | 417 | 926 | 96 | 14,253 | 320 | 7·72 |
| 6 Palar anicut system .. .. | 70,017 | 2,956 | 38,490 | 1,490 | 112,953 | 1,604 | 54·79 |
| 7 Muniyeru anicut system .. | 9,472 | 184 | 7 | 1 | 9,664 | 1 | 0·08 |
| 8 Dondapad tank .. .. | 358 | .. | 222 | .. | 580 | .. | 62·01 |
| 9 Yerur tank .. .. .. | 891 | 57 | | .. | 948 | .. | .. |
| 10 Sagileru system .. .. | 3,834 | 8 | 2,686 | .. | 6,528 | 45 | 69·91 |
| 11 Atmakur tank .. .. | 426 | .. | .. | .. | 426 | .. | .. |
| 12 Jangamaheswarapuram tank. | 112 | 22 | 3 | .. | 137 | .. | 2·24 |
| 13 Anamasamudram Beeraperu tank. | 963 | 5 | 308 | .. | 1,276 | .. | 31·82 |
| 14 Hajipuram tank .. .. | 816 | .. | 727 | .. | 1,543 | .. | 89·09 |
| 15 Ponnalur tank .. .. | 720 | .. | 126 | .. | 846 | 8 | 17·5 |
| 16 Markapur tank .. .. | 1,351 | .. | 1,056 | .. | 2,407 | .. | 78·16 |
| 17 Nagavalli river system .. | 24,744 | 442 | 546 | 48 | 25,780 | 35 | 2·36 |
| 18 Venkatapuram tank .. | 357 | .. | 301 | .. | 658 | .. | 84·31 |
| 19 Bhavanasi tank .. .. | 683 | 4 | 246 | .. | 933 | 576 | 35·81 |
| 20 Yellanur tank .. .. | 506 | .. | .. | .. | 506 | 2 | .. |
| 21 Panjapatti reservoir .. .. | .. | .. | .. | .. | .. | .. | .. |
| 22 Siddhapur tank .. .. | 941 | .. | .. | .. | 941 | .. | .. |
| 23 Nagavaram anicut and supply channel. | 471 | 6 | 217 | .. | 694 | 64 | 45·49 |
| 24 Mopad reservoir .. .. | 5,214 | 4 | 886 | 12 | 6,116 | 217 | 17·21 |
| 25 Kanniyampalaiyam anicut .. | 373 | .. | | .. | 373 | .. | .. |
| 26 Toludur reservoir system .. | 17,593 | 286 | 1,901 | 619 | 20,399 | 1,139 | 14·09 |
| 27 Thippayapalem project .. | 748 | 3 | 332 | .. | 1,083 | 461 | 44·21 |
| 28 Basavannah and Roya channels | 11,945 | .. | 1,195 | .. | 13,140 | 8 | 10·00 |
| 29 Duvvaleru project .. .. | .. | .. | .. | .. | .. | .. | .. |

**E-II.**—Statement showing the incidence of working expenses and assessed water revenue on irrigation works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Province during 1946–47.

| Name of canal. | Average discharge of the year at canal head in cubic feet per second. | Water assessed, 1946–47. | | | Gross of assessed revenue from all sources. | Working expenses, direct and indirect. | Area charged as irrigated during the year 1946–47, first and second crops. | Working expenses. | | Total water-rate, direct and indirect, per acre irrigated. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Direct. | Indirect. | Total of direct and indirect. | | | | Percentage on gross revenue. | Per acre irrigated. | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| *Productive.* | | RS. | RS. | RS. | RS. | RS. | ACS. | | | |
| 1 Cauvery delta system | | 52,53,038 | 1,65,294 | 54,18,332 | 54,60,893 | 19,02,021 | 10,62,266 | 34·83 | 1·79 | 5·10 |
| 2 Śrivaikuntam anicut system | | 2,31,744 | 1,490 | 2,33,234 | 2,66,519 | 96,913 | 42,557 | 36·36 | 2·28 | 5·48 |
| 3 Godavari delta system | | 55,77,248 | 2,30,733 | 58,07,981 | 62,95,120 | 21,69,227 | 12,40,642 | 34·46 | 1·75 | 4·68 |
| 4 Mehamattur anicut system | | 27,822 | 196 | 28,018 | 29,767 | 13,123 | 5,408 | 44·09 | 2·43 | 5·18 |
| 5 Tadepalli channel | | 1,75,475 | 2,929 | 1,78,404 | 1,81,397 | 34,031 | 25,439 | 18·76 | 1·33 | 7·01 |
| 6 Kalingaroyan channel | | 1,32,424 | 483 | 1,32,907 | 1,38,042 | 24,748 | 23,674 | 17.93 | 1·05 | 5·61 |
| 7 Vriddhachalam anicut system | | 46,079 | 339 | 46,418 | 47,498 | 18,515 | 10,830 | 38·98 | 1·71 | 4·29 |
| 8 Chembrambakkam tank | | 60,293 | 957 | 61,250 | 61,393 | 19,536 | 19,548 | 31·82 | 1·00 | 3·13 |
| 9 Marudur anicut system | | 2,10,782 | 279 | 2,11,061 | 2,20,438 | 23,295 | 31,048 | 10·57 | 0·75 | 6 80 |
| 10 Pennar river canals system | | 9,38,947 | 73,367 | 10,12,314 | 10,17,048 | 3,81,168 | 2,04,645 | 37·48 | 1·86 | 4·95 |
| 11 Arakenkota channel | | 48,845 | 428 | 49,273 | 50,825 | 11,803 | 5,804 | 23·22 | 2·03 | 8·49 |
| 12 Tirukkoyilur anicut system | | 1,36,982 | 3,369 | 1,40,351 | 1,41,604 | 68,041 | 34,079 | 48·05 | 2·00 | 4·12 |
| 13 Shatiatope anicut system | | 1,71,460 | 17,031 | 1,88,491 | 1,89,589 | 71,136 | 42,334 | 37·52 | 1·68 | 4·45 |
| 14 Cheyyar anicut system | | 1,16,630 | 4,735 | 1,21,365 | 1,21,685 | 75,647 | 39,086 | 62·17 | 1·94 | 3·11 |
| 15 Cumbum tank | | 42,935 | 472 | 43,407 | 43,407 | 5,545 | 10,017 | 12·77 | 0·55 | 4·33 |
| 16 Poiney anicut system | | 1,20,206 | 5,488 | 1,25,694 | 1,26,120 | 73,400 | 32,454 | 58·20 | 2·26 | 3·87 |
| 17 Periyar system | | 10,77,961 | 94,863 | 11,72,824 | 11,90,446 | 3,73,364 | 2,09,845 | 31·36 | 1·78 | 5·59 |
| 18 Kistna delta system | | 54,26,020 | 1,92,210 | 56,18,230 | 59,21,260 | 21,54,619 | 10,05,903 | 36·39 | 2·14 | 5·58 |
| 19 Nandiyar channel system | | 33,297 | 250 | 33,547 | 34,911 | 21,510 | 9,927 | 61·61 | 2·17 | 3·38 |
| 20 Lower Coleroon anicut system | | 5,97,461 | 51,549 | 6,49,010 | 6,59,719 | 2,38,981 | 1,23,553 | 36·22 | 1·93 | 5·25 |
| 21 Kistna East Bank canal extension scheme | | 5,95,3[illegible]0 | 87,205 | 6,82,505 | 6,95,298 | 2,17,223 | 96,808 | 31·24 | 2·24 | 7·05 |
| 22 Polavaram island project | | 1,75,096 | .. | 1,75,096 | 1,76,559 | 82,656 | 20,476 | 46·81 | 4·03 | 8·55 |
| 23 Cauvery-Mettur project | | 16,04,076 | 30,231 | 16,34,307 | 17,43,038 | 6,58,939 | 2,42,149 | 37·80 | 2·72 | 6·75 |
| 24 Kattalai scheme | | 4,41,436 | 121 | 4,41,557 | 4,53,294 | 1,06,677 | 70,388 | 23·53 | 1·52 | 6·27 |
| 25 Chicacole minor rivers system | | 1,89,634 | 7,874 | 1,97,508 | 1,97,705 | 74,519 | 88,235 | 37·69 | 0·84 | 2·24 |

E-II.—Statement showing the incidence of working expenses and assessed water revenue on irrigation works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Province during 1946–47—*cont.*

| Name of canal. | Average discharge of the year at canal head in cubic feet per second. | Water assessed, 1946–47. | | | Gross of assessed revenue from all sources. | Working expenses, direct and indirect. | Area charged as irrigated during the year 1946–47, first and second crops. | Working expenses. | | Total water-rate, direct and indirect per acre irrigated. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Direct. | Indirect. | Total of direct and indirect. | | | | Percentage on gross revenue. | Per acre irrigated. | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| *Unproductive.* | | RS. | RS. | RS. | RS. | RS. | ACS. | | | |
| 1 Kurnool-Cuddapah canal .. .. .. .. .. .. | .. | 4,03,699 | 3,277 | 4,06,976 | 4,17,992 | 2,31,338 | 83,002 | 55·35 | 2·79 | 4·90 |
| 2 Barur tank .. .. .. .. .. .. .. | .. | 25,543 | 787 | 26,330 | 30,384 | 9,027 | 6,858 | 29·71 | 1·32 | 3·84 |
| 3 Vallur anicut system .. .. .. .. .. | .. | 4,741 | 1,074 | 5,815 | 5,988 | 9,489 | 5,545 | 158·47 | 1·71 | 1·05 |
| 4 Madras water-supply and irrigation system .. .. | .. | 25,559 | 462 | 26,021 | 71,895 | 29,980 | 11,054 | 41·70 | 2·71 | 2·35 |
| 5 Pelandorai anicut system .. .. .. .. | .. | 65,504 | 86 | 65,590 | 67,519 | 33,231 | 15,582 | 49·22 | 2·13 | 4·21 |
| 6 Palar anicut system .. .. .. .. .. | .. | 3,68,488 | 16,852 | 3,85,340 | 3,91,384 | 3,82,560 | 1,21,391 | 97·75 | 3·15 | 3·17 |
| 7 Muniyeru anicut system .. .. .. .. .. | .. | 52,321 | 62 | 52,383 | 54,078 | 19,719 | 10,180 | 36·46 | 1·94 | 5·15 |
| 8 Dondapad tank .. .. .. .. .. .. | .. | 2,540 | 10 | 2,550 | 2,550 | 7,180 | 586 | 281·57 | 12·25 | 4·35 |
| 9 Yerur tank .. .. .. .. .. .. .. | .. | 3,861 | 86 | 3,947 | 3,947 | 3,889 | 1,156 | 98·53 | 3·36 | 3·41 |
| 10 Sagileru system .. .. .. .. .. .. | .. | 25,597 | 26 | 25,623 | 25,776 | 9,292 | 6,606 | 36·05 | 1·40 | 3·88 |
| 11 Atmakur tank .. .. .. .. .. .. | .. | 2,220 | .. | 2,220 | 2,292 | 3,599 | 503 | 157·02 | 7·16 | 4·41 |
| 12 Jangamaheswarapuram tank .. .. .. .. | .. | 994 | .. | 994 | 1,235 | 294 | 265 | 23·81 | 1·11 | 3·75 |
| 13 Anamasamudram-Beeraperu tank .. .. .. | .. | 4,716 | 1 | 4,717 | 4,717 | 929 | 1,322 | 19·69 | 0·70 | 3·57 |
| 14 Hajipuram tank .. .. .. .. .. .. | .. | 4,853 | 70 | 4,923 | 4,923 | 1,027 | 1,592 | 20·86 | 0·65 | 3·09 |
| 15 Ponnalur tank .. .. .. .. .. .. | .. | 4,384 | .. | 4,384 | 4,384 | 1,276 | 901 | 29·11 | 1·42 | 4·87 |
| 16 Markapur tank .. .. .. .. .. .. | .. | 11,073 | 1 | 11,074 | 11,090 | 6,831 | 2,452 | 61·60 | 2·79 | 4·52 |
| 17 Nagavalli river system .. .. .. .. .. | .. | 1,15,744 | 21,804 | 1,37,548 | 1,37,978 | 62,644 | 28,635 | 45·40 | 2·19 | 4·83 |
| 18 Venkatapuram tank .. .. .. .. .. | .. | 4,504 | .. | 4,504 | 4,504 | 1,916 | 665 | 42·54 | 2·88 | 6·77 |
| 19 Bhavanasi tank .. .. .. .. .. .. | .. | 7,200 | .. | 7,200 | 7,213 | 6,385 | 945 | 88·52 | 6·76 | 7·62 |
| 20 Yellanur tank .. .. .. .. .. .. | .. | 1,975 | 1,104 | 3,079 | 3,079 | 1,075 | 575 | 34·91 | 1·87 | 5·35 |
| 21 Panjapatti reservoir .. .. .. .. .. | .. | .. | .. | .. | 100 | 1,484 | .. | 1484.00 | .. | .. |
| 22 Siddhapur tank .. .. .. .. .. .. | .. | 6,897 | .. | 6,897 | 6,949 | 2,886 | 1,008 | 41·53 | 2·86 | 6·84 |
| 23 Nagavaram anicut and supply channel .. .. | .. | 2,844 | 1,017 | 3,861 | 3,868 | 3,267 | 815 | 84·46 | 4·01 | 4·74 |
| 24 Mopad reservoir .. .. .. .. .. .. | .. | 32,156 | 5,170 | 37,326 | 37,487 | 22,303 | 6,157 | 59·50 | 3·64 | 6·06 |
| 25 Kanniyampalaiyam anicut .. .. .. .. | .. | 2,574 | .. | 2,574 | 2,574 | 1,256 | 373 | 48·80 | 3·37 | 6·90 |
| 26 Toludur reservoir system .. .. .. .. .. | .. | 1,38,614 | 448 | 1,39,062 | 1,41,191 | 59,485 | 20,505 | 42·13 | 2·90 | 6.78 |
| 27 Thippayapalem project .. .. .. .. .. | .. | 6,636 | .. | 6,636 | 6,636 | 2,361 | 1,085 | 35·58 | 2·18 | 6·12 |
| 28 Basavannah and Roya channels .. .. .. .. | .. | 99,169 | .. | 99,169 | 99,178 | 17,738 | 14,336 | 17.89 | 1.24 | 6·92 |
| 29 Duvvaleru project .. .. .. .. .. .. | .. | .. | .. | .. | .. | 2,461 | .. | .. | .. | .. |

E-III.—Statement showing the area irrigated by flow and lift under "Productive" and "Unproductive" works and the value of crops raised thereon for fasli 1356 (1946–47).

## E-III.—Statement showing the area irrigated by flow and lift under for fasli

| Districts. | Names of systems. | Area actually irrigated. First crop. Flow. | First crop. Lift. | Second crop. Flow. | Second crop. Lift. | Total. | Both seasons. |
|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | *1. Productive Works.* | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. |
| East Godavari. | Polavaram island system .. | 14,332 | 44 | 5,513 | 15 | 19,904 | 51 |
| | Godavari delta system .. | 396,330 | 8,446 | 134,239 | 7,007 | 546,022 | 19,012 |
| West Godavari. | Do. .. | 436,010 | 13,306 | 203,435 | 5,350 | 658,101 | 10,750 |
| Kistna .. .. | Do. .. | 1,395 | 1,162 | 182 | 4 | 2,743 | .. |
| | (Godavari delta) Total .. | 833,735 | 22,914 | 337,856 | 12,361 | 1,206,866 | 29,762 |
| West Godavari. | Kistna delta system .. | 40,087 | 118 | 870 | 31 | 41,106 | .. |
| Kistna .. .. | Do. .. | 517,364 | 15,998 | 6,718 | 210 | 540,290 | 8,338 |
| Guntur .. .. | Do. .. | 384,602 | 12,822 | 8,101 | 694 | 406,219 | 4,840 |
| | (Kistna delta) Total .. | 942,053 | 28,938 | 15,689 | 935 | 987,615 | 13,178 |
| Kistna .. .. | Divi *cum* Kistna East Bank canal. | 93,315 | 514 | 65 | 11 | 93,905 | 323 |
| Nellore .. .. | Pennar river canals .. .. | 162,887 | 3,593 | 30,375 | 1,263 | 198,118 | 9,254 |
| Coimbatore .. | Arakenkota channel . .. | 4,599 | 209 | 945 | 42 | 5,795 | 6 |
| | Tadepalli channel .. .. | 17,097 | 520 | 6,251 | 623 | 24,491 | 894 |
| | Kalingarayan channel .. | 9,808 | 2,692 | 9,172 | 1,889 | 23,561 | 2,780 |
| Chingleput .. | Chembrambakkam tank .. | 14,689 | 264 | 3,616 | 58 | 18,627 | 405 |
| North Arcot .. | Poiney anicut system .. | 19,765 | 391 | 8,020 | 393 | 28,569 | 961 |
| Chittoor .. | Do. .. | 1,437 | 33 | 577 | 4 | 2,051 | 80 |
| | (Poiney anicut) Total .. | 21,202 | 424 | 8,597 | 397 | 30,620 | 1,041 |
| South Arcot .. | Tirukkoyilur anicut system | 27,043 | 1,239 | 4,287 | 296 | 32,865 | 531 |
| | Shatiatope anicut system .. | 31,754 | 625 | 7,986 | 296 | 40,661 | 111 |
| | Mehamattur anicut system. | 4,980 | 38 | 316 | 1 | 5,335 | 97 |
| | Vriddhachalam anicut system. | 9,643 | 44 | 698 | 4 | 10,389 | 68 |
| | Lower Coleroon anicut system. | 86,034 | 1,029 | 5,894 | 219 | 93,176 | 1,830 |
| Tanjore .. | Do. | 23,743 | 564 | 3,221 | 168 | 27,696 | 215 |
| | (Lower Coleroon) Total .. | 109,777 | 1,593 | 9,115 | 387 | 120,872 | 2,045 |
| Tanjore .. | Cauvery delta system .. | 813,472 | 23,600 | 115,444 | 3,442 | 955,958 | 12,429 |
| Trichinopoly .. | Do. .. | 45,976 | 3,633 | 25,940 | 1,340 | 76,889 | 4,522 |
| | (Cauvery delta) Total .. | 859,448 | 27,233 | 141,384 | 4,782 | 1,032,847 | 16,951 |
| Tanjore .. | Cauvery-Mettur Project .. | 155,252 | 7,350 | 29,931 | 2,560 | 195,093 | 5,832 |
| Trichinopoly .. | Nandiyar channel system .. | 6,363 | 971 | 2,126 | 296 | 9,756 | 1,342 |
| | Kattalai scheme .. | 50,131 | 2,512 | 16,734 | 903 | 70,280 | 7,121 |
| Madura .. | Periyar system .. .. | 132,296 | 3,815 | 51,889 | 3,774 | 191,774 | 8,628 |
| Ramnad .. | Do. .. .. | .. | 628 | .. | .. | 628 | .. |
| | (Periyar system) Total .. | 132,296 | 4,443 | 51,889 | 3,774 | 192,402 | 8,628 |
| Tinnevelly .. | Srivaikuntam anicut system. | 24,485 | 403 | 16,123 | 185 | 41,196 | 2,208 |
| | Marudur anicut system .. | 16,572 | 186 | 13,480 | 142 | 30,380 | 681 |
| Kurnool .. | Cumbum tank .. .. | 5,487 | 101 | 4,055 | 275 | 9,918 | 339 |
| North Arcot .. | Cheyyar anicut system .. | 19,678 | 685 | 16,086 | 344 | 36,793 | 371 |
| Chingleput .. | Do. .. | 430 | .. | 365 | 1 | 796 | .. |
| | (Cheyyar Anicut) Total .. | 20,108 | 685 | 16,451 | 345 | 37,589 | 371 |
| Vizagapatam .. | Chicacole minor river system. | 73,224 | 2,138 | 7,347 | 1,630 | 84,339 | 789 |
| | **Total of Productive works ..** | **3,640,280** | **109,673** | **740,001** | **33,470** | **4,523,424** | **104,808** |

"Productive" and "Unproductive" works and the value of crops raised thereon 1356 (1946–47).

| Value of crops. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Paddy. | | Ragi. | | Other crops. | | Total. | |
| Area irrigated. | Estimated value. | Area irrigated. | Estimated value. | Area irrigated. | Estimated value. | Area irrigated. | Estimated value. |
| (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
| ACS. | RS. | ACS. | RS. | ACS. | RS. | ACS. | RS. |
| 19,317 | 23,79,189 | .. | .. | 587 | 35,220 | 19,904 | 24,14,409 |
| 493,008 | 7,14,82,688 | 158 | 8,509 | 52,846 | 52,84,600 | 546,012 | 7,67,75,797 |
| 590,980 | 7,43,21,851 | 595 | 3,37,953 | 66,526 | 66,52,600 | 658,101 | 8,13,12,404 |
| 2,743 | 54,642 | .. | .. | .. | .. | 2,743 | 54,642 |
| 1,086,731 | 14,58,59,181 | 753 | 3,46,462 | 119,372 | 1,19,37,200 | 1,206,856 | 15,81,42,843 |
| 40,935 | 61,33,958 | .. | .. | 171 | 685 | 41,106 | 61,34,643 |
| 509,426 | 7,32,84,032 | 503 | 53,147 | 30,361 | 16,13,250 | 540,290 | 7,49,50,429 |
| 394,610 | 5,52,82,410 | 14 | 1,340 | 10,291 | 10,29,100 | 404,915 | 5,63,12,850 |
| 944,971 | 13,47,00,400 | 517 | 54,487 | 40,823 | 26,43,035 | 986,311 | 13,73,97,922 |
| 87,642 | 1,25,11,014 | .. | .. | 6,443 | 2,20,290 | 93,905 | 1,27,31,304 |
| 189,862 | 1,53,89,189 | 3,697 | 2,67,985 | 4,559 | 1,82,360 | 198,118 | 1,58,39,534 |
| 5,677 | 8,31,292 | 13 | 2,125 | 105 | 40,420 | 5,795 | 8,73,837 |
| 22,786 | 2,86,244 | 139 | 22,626 | 1,566 | 4,43,500 | 24,491 | 7,58,370 |
| 19,211 | 32,51,442 | 1,601 | 1,84,767 | 2,749 | 40,200 | 23,561 | 34,76,409 |
| 17,494 | 12,31,686 | 1,123 | 86,436 | 10 | 64 | 18,627 | 13,18,186 |
| 23,040 | 29,74,556 | 3,198 | 5,00,677 | 2,331 | 4,66,200 | 28,569 | 39,41,433 |
| 1,537 | 2,21,297 | 244 | 39,938 | 270 | 15,597 | 2,051 | 2,76,832 |
| 24,577 | 31,95,853 | 3,442 | 5,40,615 | 2,601 | 4,81,797 | 30,620 | 42,18,265 |
| 24,481 | 32,16,634 | 4,687 | 4,47,617 | 3,697 | 3,69,700 | 32,865 | 40,33,951 |
| 38,808 | 56,57,997 | 1,173 | 1,22,357 | 680 | 68,000 | 40,661 | 58,48,354 |
| 5,102 | 5,77,312 | 57 | 4,823 | 176 | 3,520 | 5,335 | 5,85,655 |
| 10,217 | 15,19,322 | 122 | 11,618 | 50 | 5,000 | 10,389 | 15,35,940 |
| 90,676 | 1,36,16,640 | 1,299 | 1,33,710 | 1,201 | 12,010 | 93,176 | 1,37,62,360 |
| 27,001 | 57,18,462 | 216 | 22,153 | 479 | 62,300 | 27,696 | 58,02,915 |
| 117,677 | 1,93,35,102 | 1,515 | 1,55,863 | 1,680 | 74,310 | 120,872 | 1,95,65,275 |
| 920,742 | 16,48,67,625 | 6,351 | 3,64,462 | 28,865 | 31,75,150 | 955,958 | 16,84,07,237 |
| 69,842 | 1,05,31,125 | 262 | 34,914 | 6,785 | 9,36,330 | 76,889 | 1,15,02,369 |
| 990,584 | 17,53,98,750 | 6,613 | 3,99,376 | 35,650 | 41,11,480 | 1,032,847 | 17,99,09,606 |
| 187,799 | 1,38,91,227 | 1,549 | 96,391 | 5,745 | 2,29,800 | 195,093 | 1,42,17,418 |
| 9,319 | 11,75,684 | 54 | 5,522 | 383 | 70,470 | 9,756 | 12,51,676 |
| 59,971 | 74,50,198 | 116 | 14,118 | 10,193 | 9,84,300 | 70,280 | 84,48,616 |
| 161,206 | 2,81,82,907 | 5,681 | 4,92,463 | 24,887 | 72,64,537 | 191,774 | 3,59,39,907 |
| 628 | 1,43,621 | .. | .. | .. | .. | 628 | 1,43,621 |
| 161,834 | 2,83,26,528 | 5,681 | 4,92,463 | 24,887 | 72,64,537 | 192,402 | 3,60,83,528 |
| 37,985 | 33,76,604 | 61 | 6,762 | 2,987 | 25,740 | 41,033 | 34,09,106 |
| 29,242 | 48,27,116 | 148 | 10,736 | 935 | 1,16,500 | 30,325 | 49,54,352 |
| 8,224 | 7,24,256 | 216 | 23,750 | 1,475 | 43,280 | 9,918 | 7,91,286 |
| 33,273 | 45,72,092 | 2,895 | 2,99,696 | 625 | 31,050 | 36,793 | 49,02,838 |
| 676 | 42,560 | 9 | 1,112 | 111 | 5,550 | 796 | 49,222 |
| 33,949 | 46,14,652 | 2,904 | 3,00,808 | 736 | 36,600 | 37,589 | 49,52,060 |
| 76,591 | 58,14,996 | 6,753 | 3,56,258 | 691 | 37,474 | 84,035 | 62,08,728 |
| [illegible] | [illegible] | 42,937 | 39,59,965 | 268,780 | 2,94,64,797 | 4,521,588 | 62,89,66,690 |

## E-III.—Statement showing the area irrigated by flow and lift under for fasli 1356

| Districts. | Names of systems. | Area actually irrigated. First crop. Flow. | First crop. Lift. | Second crop. Flow. | Second crop. Lift. | Total. | Both seasons. |
|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. |
| | 2. *Unproductive Works.* | | | | | | |
| Vizagapatam .. | Nagavalli river project .. | 24,744 | 442 | 546 | 48 | 25,780 | 35 |
| Kistna .. .. | Muniyeru anicut system .. | 9,472 | 184 | 7 | 1 | 9,664 | 1 |
| Guntur .. .. | Jangamaheswarapuram tank. | 112 | 22 | 3 | .. | 137 | .. |
| | Atmakur tank .. .. | 426 | .. | . | .. | 426 | .. |
| | Dondapad tank .. .. | 358 | .. | 222 | .. | 580 | .. |
| | Bhavanasi tank .. .. | 683 | 4 | 246 | .. | 933 | 576 |
| Nellore .. .. | Mopad reservoir .. .. | 5,214 | 4 | 886 | 12 | 6,116 | 217 |
| | Hajeepuram tank .. .. | 816 | . | 727 | .. | 1,543 | .. |
| | Ponnalur tank .. .. | 720 | .. | 126 | .. | 846 | 8 |
| | Annamasamudram-Biraperu tank. | 963 | 5 | 308 | .. | 1,276 | .. |
| | Yerur tank .. .. .. | 891 | 57 | .. | .. | 948 | .. |
| Cuddapah .. | Sagileru system .. .. | 3,834 | 8 | 2,686 | .. | 6,528 | 45 |
| | Chepad channel .. .. | 11,389 | .. | 999 | .. | 12,388 | 93 |
| | Nagavaram anicut and supply channel. | 471 | 6 | 217 | .. | 694 | 64 |
| Kurnool .. | Markapur tank .. . | 1,351 | .. | 1,056 | .. | 2,407 | .. |
| | Siddapur tank .. .. | 941 | .. | .. | .. | 941 | .. |
| | Venkatapuram tank .. | 357 | .. | 301 | .. | 658 | .. |
| | Tippayapalem project .. | 748 | 3 | 332 | .. | 1,083 | 461 |
| | Kurnool-Cuddapah canal .. | 39,449 | 135 | 5,443 | 126 | 45,153 | 313 |
| Cuddapah .. | Do. .. | 31,652 | 188 | 3,738 | 263 | 35,841 | 1,880 |
| | (Kurnool-Cuddapah canal) Total .. | 71,101 | 323 | 9,181 | 389 | 80,994 | 2,193 |
| Bellary .. | Basavanna and Raya channel. | 11,945 | .. | 1,195 | .. | 13,140 | 8 |
| Anantapur .. | Yellanur tank .. .. | 506 | .. | .. | .. | 506 | 2 |
| Salem .. .. | Barur tank .. .. .. | 3,943 | 49 | 2,518 | 33 | 6,543 | 494 |
| Coimbatore .. | Kanniyampalaiyam anicut .. | 373 | .. | . | .. | 373 | .. |
| Chingleput .. | Madras water-supply and irrigation system. | 6,830 | 272 | 2,967 | 165 | 10,234 | 305 |
| | Vallur anicut system .. | 3,196 | 6 | 87 | 5 | 3,294 | 58 |
| | Palar anicut system .. .. | 18,284 | 865 | 10,079 | 518 | 29,746 | 8 |
| North Arcot .. | Do. .. .. | 51,733 | 2,091 | 28,411 | 972 | 83,207 | 1,596 |
| | (Palar anicut system) Total .. | 70,017 | 2,956 | 38,490 | 1,490 | 112,953 | 1,604 |
| South Arcot .. | Pelandorai anicut system .. | 12,814 | 417 | 926 | 96 | 14,253 | 320 |
| | Willingdon reservoir .. | 17,593 | 286 | 1,901 | 619 | 20,399 | 1,139 |
| | Total of Unproductive works. | 261,808 | 5,044 | 65,927 | 2,858 | 335,637 | 7,623 |
| | Total of Productive works. | 3,640,280 | 109,673 | 740,001 | 33,470 | 4,523,424 | 104,808 |
| | Grand total .. | 3,902,088 | 114,717 | 805,928 | 36,328 | 4,859,061 | 112,431 |

NOTE.—(1) The area "under both seasons"
(2) The areas in columns (3) to (6) include
(3) The area of "withered crops"

"Productive" and "Unproductive" works and the value of crops raised thereon (1946-47)—*cont.*

| Value of crops. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Paddy. | | Ragi. | | Other crops. | | Total. | |
| Area irrigated. | Estimated value. | Area irrigated. | Estimated value. | Area irrigated. | Estimated value. | Area irrigated. | Estimated value. |
| (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
| ACS. | RS. | ACS. | RS. | ACS. | RS. | ACS. | RS. |
| 24,122 | 25,51,529 | 275 | 24,139 | 1,383 | 2,76,600 | 25,780 | 28,52,268 |
| 8,876 | 11,55,760 | .. | .. | 788 | 15,760 | 9,664 | 11,71,520 |
| 136 | 9,518 | 1 | 43 | .. | .. | 137 | 9,561 |
| 384 | 31,975 | 1 | 43 | 41 | 1,890 | 426 | 33,908 |
| 523 | 64,187 | 40 | 8,767 | 17 | 1,700 | 580 | 74,654 |
| 850 | 1,25,933 | 7 | 840 | 76 | 35,000 | 933 | 1,61,773 |
| 2,519 | 2,02,349 | 2,986 | 3,20,943 | 611 | 13,556 | 6,116 | 5,36,848 |
| 732 | 50,099 | 451 | 12,784 | 360 | 14,075 | 1,543 | 76,958 |
| 712 | 97,839 | 1 | 33 | 133 | 3,700 | 846 | 1,01,572 |
| 1,065 | 68,066 | 134 | 22,616 | 77 | 400 | 1,276 | 91,082 |
| 879 | 63,053 | .. | .. | 69 | 1,800 | 948 | 64,853 |
| 5,082 | 2,42,704 | 749 | 48,347 | 687 | 13,876 | 6,518 | 3,04,927 |
| 6,463 | 36,577 | 1,338 | 1,15,998 | 4,587 | 1,37,610 | 12,388 | 2,90,185 |
| 540 | 29,005 | 44 | 3,084 | 110 | 1,800 | 694 | 23,889 |
| 1,739 | 1,32,115 | 432 | 44,190 | 236 | 8,160 | 2,407 | 1,84,465 |
| 941 | 1,31,670 | .. | .. | .. | .. | 941 | 1,31,670 |
| 658 | 1,06,982 | .. | .. | .. | .. | 658 | 1,06,982 |
| 613 | 44,703 | 316 | 31,792 | 154 | 4,610 | 1,083 | 81,105 |
| 23,243 | 21,77,877 | 38 | 3,887 | 21,872 | 3,25,212 | 45,153 | 25,06,976 |
| 19,105 | 23,08,461 | 5,879 | 5,37,653 | 10,857 | 10,85,700 | 35,841 | 39,31,814 |
| 42,348 | 44,86,338 | 5,917 | 5,41,540 | 32,729 | 14,10,912 | 80,994 | 64,38,790 |
| 13,140 | 20,68,996 | .. | .. | .. | .. | 13,140 | 20,68,996 |
| 396 | 4,638 | 74 | 7,065 | 36 | 360 | 506 | 12,063 |
| 5,339 | 12,51,091 | 415 | 66,879 | 789 | 98,740 | 6,543 | 14,16,710 |
| 266 | 52,587 | 2 | 460 | 105 | 42,000 | 373 | 95,047 |
| 8,952 | 13,50,367 | 441 | 43,310 | 841 | 22,640 | 10,234 | 14,16,317 |
| 3,168 | 1,73,976 | 72 | 355 | 54 | 540 | 3,294 | 1,74,871 |
| 27,812 | 24,42,918 | 1,708 | 78,512 | 226 | 33,900 | 29,746 | 25,55,330 |
| 76,247 | 45,15,422 | 4,382 | 5,09,628 | 2,578 | 10,140 | 83,207 | 50,35,190 |
| 104,059 | 69,58,340 | 6,090 | 5,88,140 | 2,804 | 44,040 | 1,12,953 | 75,90,520 |
| 13,703 | 20,41,882 | 199 | 28,395 | 351 | 7,000 | 14,253 | 20,77,277 |
| 17,518 | 19,79,194 | 118 | 12,308 | 2,763 | 54,360 | 20,399 | 20,45,862 |
| 265,723 | 2,55,11,473 | 20,103 | 19,22,071 | 49,801 | 22,11,129 | 335,627 | 2,96,44,673 |
| 4,209,871 | 59,55,41,868 | 42,937 | 39,59,965 | 268,780 | 2,94,64,797 | 4,521,588 | 62,89,66,630 |
| 4,475,594 | 62,10,53,341 | 63,040 | 58,82,036 | 318,581 | 3,16,75,926 | 4,857,215 | 65,86,11,303 |

is included under the first and second crops.
extent under "withered crops" but exclude "waste charged",
is 1,846 acres.

## E-IV.—Comparative statement of irrigation and rainfall in the

| Civil districts. | Of the civil districts. Total area in acres. | Cultivable area in acres. | Cultivated area in acres. | Works supplying irrigation—Number and name. | Cultivable area commanded by the irrigation works in column (5). |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| | | | | | ACS. |
| Vizagapatam .. | 5,198,106 | 2,723,891 | 1,475,310 | 1 Chicacole minor river system .. .. | 70,000 |
| | | | | 2 Nagavalli river system .. .. | 31,200 |
| | | | | 3 Minor works .. .. .. .. | 121,767 |
| | | | | Total .. | 222,967 |
| East Godavari .. | 3,639,741 | 1,793,174 | 990,058 | 1 Godavari delta system .. .. | 396,253 |
| | | | | 2 Polavaram island system .. .. | 18,648 |
| | | | | 3 Minor works .. .. .. .. | 94,862 |
| | | | | Total .. | 509,763 |
| West Godavari .. | 1,924,838 | 1,529,358 | 883,408 | 1 Godavari delta system .. . | 565,000 |
| | | | | 2 Kistna delta system .. .. .. | .. |
| | | | | 3 Minor works .. .. .. .. | 43,129 |
| | | | | Total .. | 608,129 |
| Kistna .. .. | 2,222,217 | 1,701,173 | 1,184,194 | 1 Kistna delta system .. .. .. | 543,000 |
| | | | | 2 Godavari delta system .. .. | .. |
| | | | | 3 Divi system .. .. .. .. | 80,000 |
| | | | | 4 Muniyeru anicut system .. .. | 13,024 |
| | | | | 5 Minor works .. .. .. .. | 20,903 |
| | | | | Total .. | 656,927 |
| Guntur .. .. | 3,689,780 | 2,769,442 | 2,103,650 | 1 Kistna delta system .. .. .. | 357,000 |
| | | | | 2 Bhavanasi tank .. .. .. | 2,448 |
| | | | | 3 Dondapad tank .. .. .. | 2,880 |
| | | | | 4 Atmakur tank .. .. .. .. | 1,160 |
| | | | | 5 Jangamaheswarapuram tank .. .. | 960 |
| | | | | 6 Minor works .. .. .. .. | 26,534 |
| | | | | Total .. | 390,982 |
| Kurnool .. .. | 4,863,565 | 2,913,408 | 1,986,101 | 1 Kurnool-Cuddapah canal .. .. | 319,869 |
| | | | | 2 Venkatapuram tank .. .. .. | 1,700 |
| | | | | 3 Cumbum tank .. .. .. .. | 6,000 |
| | | | | 4 Markapur tank .. .. .. .. | 1,701 |
| | | | | 5 Siddhapur tank .. .. .. | 4,250 |
| | | | | 6 Thippayapalem project .. .. | .. |
| | | | | 7 Minor works .. .. .. .. | 47,146 |
| | | | | Total .. | 380,666 |
| Bellary .. .. | 3,648,044 | 3,052,613 | 2,371,442 | 1 Basavanna and Raya channel .. | .. |
| | | | | 2 Minor works .. .. .. .. | 55,406 |
| | | | | Total .. | 55,406 |
| Anantapur .. | 4,311,447 | 3,383,465 | 2,005,843 | 1 Yellanur tank .. .. .. .. | 1,641 |
| | | | | 2 Minor works .. .. .. .. | 153,233 |
| | | | | Total .. | 154,874 |
| Cuddapah .. | 3,798,169 | 2,170,005 | 1,002,731 | 1 Kurnool-Cuddapah canal including Chepad channel. | 37,700 |
| | | | | 2 Sagileru system .. .. .. | 26,576 |
| | | | | 3 Nagavaram anicut and supply channel. | 894 |
| | | | | 4 Minor works .. .. .. .. | 102,629 |
| | | | | Total .. | 167,799 |
| Nellore .. .. | 5,087,200 | 3,017,786 | 1,288,662 | 1 Pennar river canal system .. .. | 190,000 |
| | | | | 2 Mopad reservoir .. .. .. | 13,890 |
| | | | | 3 Ponnalur tank .. .. .. .. | 1,973 |
| | | | | 4 Anamasamudram-Biraperu tank .. | 1,000 |
| | | | | 5 Yerur tank .. .. .. .. | 3,176 |
| | | | | 6 Hajipuram tank .. .. .. | 2,900 |
| | | | | 7 Minor works .. .. .. .. | 136,956 |
| | | | | Total .. | 349,895 |
| Chingleput .. | 1,965,897 | 1,238,103 | 683,090 | 1 Palar anicut system .. .. .. | 24,102 |
| | | | | 2 Chembarambakkam tank .. .. | 24,478 |
| | | | | 3 Vallur anicut system .. .. | 6,794 |
| | | | | 4 Cheyyar anicut system .. .. | 540 |
| | | | | 5 Madras water-supply and irrigation system. | 10,165 |
| | | | | Minor works .. .. .. .. | 358,578 |
| | | | | Total .. | 424,657 |

## Madras Presidency for the revenue year ending with 30th June 1947.

| Area at present estimated as annually irrigable by the works specified in column (5). | Area irrigated in acres. | | | | | | Rainfall. | |
|---|---|---|---|---|---|---|---|---|
| | Revenue year ending with June 1946. | | | Revenue year ending with June 1947. | | | 1945–46. | 1946–47. |
| | Kharif I crop. | Rabi II crop. | Total. | Kharif I crop. | Rabi II crop. | Total. | | |
| (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
| ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | INCHES. | INCHES. |
| 66,800 | 79,812 | 6,824 | 86,636 | 75,362 | 8,977 | 84,339 | | |
| 27,500 | 26,924 | 1,360 | 28,284 | 25,186 | 594 | 25,780 | | |
| 121,767 | 126,199 | 14,586 | 140,785 | 122,829 | 15,365 | 138,194 | | |
| 216,067 | 232,935 | 22,770 | 255,705 | 223,377 | 24,936 | 248,313 | 39·7 | 37·8 |
| 377,000 | 399,034 | 136,293 | 535,327 | 404,776 | 141,246 | 546,022 | | |
| 17,500 | 14,408 | 7,554 | 21,962 | 14,376 | 5,528 | 19,904 | | |
| 94,862 | 118,296 | 19,072 | 137,368 | 113,489 | 18,369 | 131,858 | | |
| 489,362 | 531,738 | 162,919 | 694,657 | 532,641 | 165,143 | 697,784 | 46·1 | 37·7 |
| 414,500 | 468,765 | 198,892 | 667,657 | 449,316 | 208,785 | 658,101 | | |
| .. | 36,979 | 182 | 37,161 | 40,205 | 901 | 41,106 | | |
| 43,129 | 44,423 | 1,123 | 45,546 | 43,316 | 1,460 | 44,776 | | |
| 457,629 | 550,167 | 200,197 | 750,364 | 532,837 | 211,146 | 743,983 | 37·4 | 37·9 |
| 445,300 | 523,490 | 5,862 | 529,352 | 533,362 | 6,928 | 540,290 | | |
| .. | 1,066 | 50 | 1,116 | 2,557 | 186 | 2,743 | | |
| 42,000 | 95,104 | 73 | 95,177 | 93,829 | 76 | 93,905 | | |
| 10,000 | 9,867 | 90 | 9,957 | 9,656 | 8 | 9,664 | | |
| 20,903 | 22,682 | 211 | 22,893 | 25,769 | 260 | 26,029 | | |
| 518,203 | 652,209 | 6,286 | 658,495 | 665,173 | 7,458 | 672,631 | 32·6 | 39·4 |
| 330,000 | 400,161 | 9,160 | 409,321 | 397,424 | 8,795 | 406,219 | | |
| 841 | 604 | 120 | 724 | 687 | 246 | 933 | | |
| 250 | 428 | 4 | 432 | 358 | 222 | 580 | | |
| 460 | 432 | 1 | 433 | 426 | .. | 426 | | |
| 290 | 218 | 2 | 220 | 134 | 3 | 137 | | |
| 26,534 | 26,779 | 1,183 | 27,962 | 29,421 | 2,084 | 31,505 | | |
| 358,375 | 428,622 | 10,470 | 439,092 | 428,450 | 11,350 | 439,800 | 32·2 | 38·7 |
| 103,743 | 35,473 | 5,022 | 40,495 | 39,584 | 5,569 | 45,153 | | |
| 340 | 316 | .. | 316 | 357 | 301 | 658 | | |
| 5,980 | 5,536 | 438 | 5,974 | 5,588 | 4,330 | 9,918 | | |
| 1,583 | 1,364 | 3 | 1,367 | 1,351 | 1,056 | 2,407 | | |
| 3,730 | 62 | 2 | 64 | 941 | .. | 941 | | |
| ... | 211 | 164 | 375 | 751 | 332 | 1,083 | | |
| 47,146 | 45,973 | 2,808 | 48,781 | 48,020 | 11,136 | 59,156 | | |
| 162,522 | 88,935 | 8,437 | 97,372 | 96,592 | 22,724 | 119,316 | 25·5 | 29·3 |
| .. | 12,212 | 3,351 | 15,563 | 11,945 | 1,195 | 13,140 | | |
| 55,406 | 47,616 | 7,798 | 55,414 | 48,904 | 12,466 | 61,370 | | |
| 55,406 | 59,828 | 11,149 | 70,977 | 60,849 | 13,661 | 74,510 | 17·5 | 23·0 |
| 925 | 521 | .. | 521 | 506 | .. | 506 | | |
| 153,233 | 113,148 | 28,530 | 141,678 | 137,159 | 54,142 | 191,301 | | |
| 154,158 | 113,669 | 28,530 | 142,199 | 137,665 | 54,142 | 191,807 | 14·7 | 24·7 |
| 19,676 | 32,288 | 3,207 | 35,495 | 31,840 | 4,001 | 35,841 | | |
| .. | 9,973 | 394 | 10,367 | 11,389 | 999 | 12,388 | | |
| 4,500 | 3,500 | 49 | 3,549 | 3,842 | 2,686 | 6,528 | | |
| 894 | 551 | 419 | 970 | 477 | 217 | 694 | | |
| 102,629 | 90,740 | 18,180 | 108,920 | 107,937 | 32,103 | 140,040 | | |
| 127,699 | 137,052 | 22,249 | 159,301 | 155,485 | 40,006 | 195,491 | 21·3 | 35·5 |
| 162,500 | 164,734 | 4,190 | 168,924 | 166,480 | 31,638 | 198,118 | | |
| 12,500 | 6,342 | 344 | 6,686 | 5,218 | 898 | 6,116 | | |
| 1,000 | 748 | .. | 748 | 720 | 126 | 846 | | |
| 1,000 | 798 | .. | 798 | 968 | 308 | 1,276 | | |
| 1,470 | 321 | 109 | 430 | 948 | .. | 948 | | |
| 700 | 514 | 9 | 523 | 816 | 727 | 1,543 | | |
| 136,956 | 124,862 | 9,650 | 134,512 | 137,700 | 26,481 | 164,181 | | |
| 316,126 | 298,319 | 14,302 | 312,621 | 312,850 | 60,178 | 373,028 | 24·8 | 61·9 |
| 24,102 | 17,482 | 2,615 | 20,097 | 19,150 | 10,596 | 29,746 | | |
| 18,000 | 13,671 | 4,676 | 18,347 | 14,953 | 3,674 | 18,627 | | |
| 5,216 | 4,230 | 449 | 4,679 | 3,202 | 92 | 3,294 | | |
| 494 | 399 | 46 | 445 | 430 | 366 | 796 | | |
| 9,852 | 6,754 | 2,286 | 9,040 | 7,102 | 3,132 | 10,234 | | |
| 358,578 | 328,618 | 81,193 | 409,811 | 329,223 | 141,505 | 470,728 | | |
| 416,242 | 371,154 | 91,265 | 462,419 | 374,060 | 159,365 | 533,425 | 41·5 | 33·1 |

## E-IV.—Comparative statement of irrigation and rainfall in the

| Civil districts. | Of the civil districts. Total area in acres. | Cultivable area. in acres. | Cultivated area. in acres | Works supplying irrigation—Number and name. | Cultivable area commanded by the irrigation works in column (5) |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| | | | | | ACS. |
| South Arcot .. | 2,693,024 | 1,880,082 | 1,343,849 | 1 Lower Coleroon anicut system .. | 86,000 |
| | | | | 2 Shatiatope anicut system .. .. | 43,965 |
| | | | | 3 Vriddhachalam anicut system .. | 16,359 |
| | | | | 4 Mehamattur anicut system .. .. | 10,651 |
| | | | | 5 Tirukkoyilur anicut system .. .. | 45,977 |
| | | | | 6 Pelandurai anicut system .. .. | 16,677 |
| | | | | 7 Willingdon reservoir .. .. .. | 28,800 |
| | | | | 8 Minor works .. .. .. .. | 300,198 |
| | | | | Total .. | 548,627 |
| North Arcot .. | 2,974,637 | 1,723,772 | 1,135,200 | 1 Palar anicut system .. .. .. | 80,930 |
| | | | | 2 Cheyyar anicut system .. .. | 28,921 |
| | | | | 3 Poiney anicut system .. .. .. | 23,824 |
| | | | | 4 Minor works .. .. .. .. | 231,647 |
| | | | | Total .. | 365,322 |
| Chittoor .. .. | 3,771,906 | 1,790,639 | 764,229 | 1 Poiney anicut system .. .. .. | .. |
| | | | | 2 Minor works .. .. .. .. | 113,903 |
| | | | | Total .. | 113,903 |
| Salem .. .. | 4,509,163 | 2,778,661 | 1,645,588 | 1 Barur tank .. .. .. .. | 6,887 |
| | | | | 2 Minor works .. .. .. .. | 105,998 |
| | | | | Total .. | 112,885 |
| Coimbatore .. | 4,551,420 | 2,707,967 | 1,759,650 | 1 Tadepalli channel .. .. .. | 16,000 |
| | | | | 2 Arakkankottai channel .. .. | 6,000 |
| | | | | 3 Kalingarayan channel .. .. .. | 15,000 |
| | | | | 4 Kanniyampalaiyam anicut .. .. | 1,600 |
| | | | | 5 Minor works .. .. .. .. | 72,862 |
| | | | | Total .. | 111,462 |
| Trichinopoly .. | 2,768,554 | 2,172,416 | 1,309,063 | 1 Cauvery delta system .. .. .. | 44,667 |
| | | | | 2 Nandiyar channel system .. .. | 9,480 |
| | | | | 3 Kattalai scheme .. .. .. | 40,000 |
| | | | | 4 Minor works .. .. .. .. | 120,308 |
| | | | | Total .. | 214,455 |
| Tanjore .. .. | 2,397,981 | 1,748,279 | 1,379,755 | 1 Cauvery delta system .. .. .. | 864,367 |
| | | | | 2 Lower Coleroon anicut system .. | 31,233 |
| | | | | 3 Cauvery-Mettur project .. .. | 528,487 |
| | | | | 4 Minor works .. .. .. .. | 65,961 |
| | | | | Total .. | 1,490,048 |
| Madura .. .. | 3,115,718 | 2,161,612 | 1,201,035 | 1 Periyar system .. .. .. .. | .. |
| | | | | 2 Minor works .. .. .. .. | 131,046 |
| | | | | Total .. | 131,046 |
| Ramnad .. .. | 3,088,090 | 2,293,465 | 1,116,241 | 1 Periyar system .. .. .. | .. |
| | | | | 2 Minor works .. .. .. .. | 38,362 |
| | | | | Total .. | 38,362 |
| Tinnevelly .. | 2,776,422 | 2,064,017 | 1,203,898 | 1 Srivaikuntam anicut system .. .. | 33,500 |
| | | | | 2 Marudur anicut system .. .. | 17,920 |
| | | | | 3 Minor works .. .. .. .. | 187,167 |
| | | | | Total .. | 238,587 |
| | | | | Total of productive and unproductive works. | 4,758,167 |
| | | | | Total of minor works .. | 2,528,595 |
| Grand total .. | 72,995,928 | 47,703,328 | 28,832,897 | Grand total .. | 7,286,762 |

Madras Presidency for the revenue year ending with 30th June 1947—*cont.*

| Area at present estimated as annually irrigable by the works specified in column (5). | Area irrigated in acres. | | | | | | Rainfall. | |
|---|---|---|---|---|---|---|---|---|
| | Revenue year ending with June 1946. | | | Revenue year ending with June 1947. | | | 1945-46. | 1946-47. |
| | Kharif I crop. | Rabi II crop. | Total. | Kharif I crop. | Rabi II crop. | Total. | | |
| (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
| ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | INCHES. | INCHES. |
| 84,244 | 86,368 | 6,143 | 92,511 | 87,063 | 6,113 | 93,176 | | |
| 32,000 | 32,720 | 5,284 | 38,004 | 32,379 | 8,282 | 40,661 | | |
| 8,829 | 10,111 | 413 | 10,524 | 9,687 | 702 | 10,389 | | |
| 5,000 | 4,680 | 153 | 4,833 | 5,018 | 317 | 5,335 | | |
| 28,000 | 29,488 | 5,567 | 35,055 | 28,282 | 4,583 | 32,865 | | |
| 12,837 | 13,624 | 863 | 14,487 | 13,231 | 1,022 | 14,253 | | |
| 25,000 | 18,728 | 6,741 | 25,469 | 17,879 | 2,520 | 20,399 | | |
| 300,198 | 304,259 | 74,802 | 379,061 | 307,108 | 92,120 | 399,228 | | |
| 496,108 | 499,978 | 99,966 | 599,944 | 500,647 | 115,659 | 616,306 | 37·1 | 67·7 |
| 54 566 | 47,748 | 16,573 | 64,321 | 53,824 | 29,383 | 83,207 | | |
| 22,193 | 19,650 | 10,964 | 30,614 | 20,363 | 16,430 | 36,793 | | |
| 22,462 | 16,849 | 3,983 | 20,832 | 20,156 | 8,413 | 28,569 | | |
| 231,647 | 187,759 | 62,377 | 250,136 | 220,019 | 125,583 | 345,602 | | |
| 330,868 | 272,006 | 93,897 | 365,903 | 314,362 | 179,809 | 494,171 | 31·6 | 55·9 |
| .. | 1,463 | 695 | 2,158 | 1,470 | 581 | 2,051 | | |
| 113,903 | 86,737 | 30,409 | 117,146 | 111,899 | 36,446 | 148,345 | | |
| 113,903 | 88,200 | 31,104 | 119,304 | 113,369 | 37,027 | 150,396 | 26·4 | 50·6 |
| 3,750 | 4,068 | 854 | 4,922 | 3,992 | 2,551 | 6,543 | | |
| 165,998 | 98,830 | 35,365 | 134,195 | 108,848 | 43,217 | 152,065 | | |
| 109,748 | 102,898 | 36,219 | 139,117 | 112,840 | 45,768 | 158,608 | 26·5 | 47·8 |
| 15,400 | 16,891 | 5,036 | 21,927 | 17,617 | 6,874 | 24,491 | | |
| 4,845 | 4,796 | 984 | 5,780 | 4,808 | 987 | 5,795 | | |
| 12,239 | 12,496 | 10,312 | 22,808 | 12,500 | 11,061 | 23,561 | | |
| 213 | 308 | 134 | 442 | 373 | .. | 373 | | |
| 72,862 | 69,313 | 27,469 | 96,782 | 73,575 | 23,859 | 97,434 | | |
| 105,559 | 103,804 | 43,935 | 147,739 | 108,873 | 42,781 | 151,654 | 29·6 | 35·9 |
| 44,008 | 49,064 | 28,304 | 77,368 | 49,609 | 27,280 | 76,889 | | |
| 7,084 | 7,382 | 2,388 | 9,770 | 7,334 | 2,422 | 9,756 | | |
| 36,623 | 53,097 | 17,910 | 71,007 | 52,643 | 17,637 | 70,280 | | |
| 120,308 | 117,316 | 52,257 | 169,573 | 129,090 | 56,446 | 185,536 | | |
| 208,023 | 226,859 | 100,859 | 327,718 | 238,676 | 103,785 | 342,461 | 25·1 | 41·8 |
| 856,918 | 826,105 | 134,824 | 960,929 | 837,072 | 118,886 | 955,958 | | |
| 23,685 | 24,101 | 2,888 | 26,989 | 24,307 | 3,389 | 27,696 | | |
| 177,000 | 138,005 | 49,636 | 187,641 | 162,602 | 32,491 | 195,093 | | |
| 65,961 | 43,802 | 1,668 | 45,470 | 48,275 | 7,430 | 55,705 | | |
| 1,123,564 | 1,032,013 | 189,016 | 1,221,029 | 1,072,256 | 162,196 | 1,234,452 | 35·6 | 68·0 |
| 143,000 | 134,093 | 55,522 | 189,615 | 136,111 | 55,663 | 191,774 | | |
| 131,046 | 121,729 | 43,310 | 165,039 | 132,748 | 40,829 | 173,577 | | |
| 274,046 | 255,822 | 98,832 | 354,654 | 268,859 | 96,492 | 365,361 | 30·0 | 44·9 |
| .. | 831 | .. | 831 | 628 | .. | 628 | | |
| 38,362 | 35,572 | 11,194 | 46,766 | 34,568 | 13,643 | 48,211 | | |
| 38,362 | 36,403 | 11,194 | 47,597 | 35,196 | 13,643 | 48,839 | 33·5 | 46·9 |
| 25,685 | 25,088 | 12,265 | 37,353 | 24,888 | 16,308 | 41,196 | | |
| 17,920 | 17,276 | 10,127 | 27,403 | 16,758 | 13,622 | 30,380 | | |
| 187,167 | 193,441 | 91,107 | 284,548 | 199,202 | 102,574 | 301,776 | | |
| 230,772 | 235,805 | 113,499 | 349,304 | 240,848 | 132,504 | 373,352 | 38·4 | 40·2 |
| 3,774,147 | 3,970,322 | 782,803 | 4,753,125 | 4,016,806 | 842,255 | 4,859,061 | | |
| 2,528,595 | 2,348,094 | 614,292 | 2,962,386 | 2,509,099 | 857,518 | 3,366,617 | | |
| 6,302,742 | 6,318,416 | 1,397,095 | 7,715,511 | 6,525,905 | 1,699,773 | 8,225,678 | 30·5 | 44·8 |

**F.-1—Statement showing the water-rates per acre which were in force under certain "Productive" and "Unproductive" works in the Madras Presidency during the year ending 30th June 1947.**

| Description of crop. | Godavari and Kistna anicuts. | Muniyeru project. | Periyar system.* | Bhavanasi tank. | Venkatapuram tank. | Mopad reservoir. | Willingdon reservoir. | Panjapatti reservoir.† | Siddapur tank. | Other systems (in tracts where the differential water-rate system does not prevail). ‡ |
|---|---|---|---|---|---|---|---|---|---|---|
| | RS. A. | RS. A. | RS. A. | RS. A. | RS. A. | RS. A. | RS. A. | RS. A. | RS. A. | |
| 1 Single wet crop | 6 4 | 6 4 | 5 0 | 9 6 | 4 3 | 7 13 | 6 4 | 6 4 | 6 0 | .. |
| 2 Second wet crop | 3 2 | 3 2 | 3 0 | 4 11 | 2 1 | 3 15 | 3 2 | 3 2 | 3 0 | .. |
| 3 Second wet crop (if compounded for two crops for a term of not less than five years). | 10 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 4 Second dry crop on irrigated land except where the landholder has compounded under clause 3. | 3 2 | 3 2 | .. | .. | .. | .. | .. | .. | .. | .. |
| 5 For sugarcane, betel and other garden produce remaining on the ground for the time of two crops. | 9 6 | 9 6 | 8 0 | 14 1 | 6 4 | 11 12 | 9 6 | .. | 9 0 | .. |
| 6 For sugarcane, betel and other garden produce remaining on the ground for the time of two crops, if compounded for a term of not less than five years. | 10 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 7 For a dry crop, whether first or second, grown on land for which irrigation has never been supplied or having been once supplied has been since discontinued. | 3 2 | .. | .. | 4 11 | 2 1 | 3 15 | .. | .. | .. | .. |
| 8 For a third irrigated crop (wet) | 2 8 | 3 2 | 2 0 | .. | .. | .. | .. | .. | .. | .. |
| 9 Do. (dry) | 1 4 | 3 2 | 1 0 | .. | .. | .. | .. | .. | .. | .. |
| 10 Dry crop systematically irrigated | 6 4 | 4 11 | .. | .. | .. | .. | .. | .. | .. | .. |
| 11 Second wet crop in the case of zamindari and inam lands | 6 4 | 3 2 | .. | .. | .. | .. | .. | .. | .. | .. |
| 12 Second wet crop in the case of zamindari and inam lands where the cultivator has compounded for two crops for a term of not less than five years. | 10 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 13 For sugarcane, betel and other garden produce in zamindari and inam lands remaining on the ground for the time of two crops. | 12 8 | 9 6 | .. | .. | .. | .. | .. | .. | .. | .. |
| 14 For sugarcane, betel and other garden produce in zamindari and inam lands remaining on the ground for the time of two crops, if the cultivator has compounded for a term of not less than five years. | 10 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 15 For a first dry crop systematically irrigated | .. | .. | 5 0 | .. | .. | .. | .. | .. | .. | .. |
| 16 For a second dry crop systematically irrigated | .. | .. | 3 0 | .. | .. | .. | .. | .. | .. | .. |
| 17 For a first or second dry crop occasionally irrigated | .. | .. | 2 8 | .. | .. | .. | .. | .. | .. | .. |

18 Special crops like onions, sweet potatoes, chillies, tobacco (the same as for a dry crop systematically irrigated). .. .. 5 0

19 Mango topes, coconut topes and other tope plantations—

(*a*) If they take water for term of two wet crops .. .. .. .. 8 0

(*b*) In other cases .. .. .. .. .. .. .. .. .. 5 0

NOTE.—When the water used for irrigation cannot be obtained without raising it by baling or by some mechanical contrivance, a deduction of one-fourth of the water-rate will be made.

* Double the rates are levied when Periyar water is supplied to Government and minor inam dry lands to the Cumbum Valley, Periyakulam taluk to which extension of irrigation has been sanctioned.

† Standard scale of water-cess has been ordered to be adopted until further orders—*Vide* G.O. Ms. No. 1277, Revenue, dated 29th June 1934.

| | ‡ First crop on dry land. | Second crop on dry land. | Charge for | | Total charge. | |
|---|---|---|---|---|---|---|
| | | | First crop. | Second crop. | | |
| | | | RS. | RS. A. | RS. | A. |
| 1 | Wet .. .. .. .. .. .. | Wet .. .. .. .. .. | 4 | 2 0 | 6 | 0 |
| 2 | Do. .. .. .. .. .. .. | Dry, systematically irrigated .. .. | 4 | 1 8 | 5 | 8 |
| 3 | Do. .. .. .. .. .. .. | Dry, occasionally irrigated .. .. | 4 | 1 0 | 5 | 0 |
| 4 | Dry, systematically irrigated .. .. | Wet .. .. .. .. .. | 3 | 2 8 | 5 | 8 |
| 5 | Do. .. .. | Dry, systematically irrigated .. .. | 3 | 2 0 | 5 | 0 |
| 6 | Do. .. .. | Dry, occasionally irrigated .. .. | 3 | 1 8 | 4 | 8 |
| 7 | Dry, occasionally irrigated .. .. .. | Wet .. .. .. .. .. | 2 | 3 0 | 5 | 0 |
| 8 | Do. .. .. .. | Dry, systematically irrigated .. .. | 2 | 2 8 | 4 | 8 |
| 9 | Do. .. .. .. | Dry, occasionally irrigated .. .. | 2 | 2 0 | 4 | 0 |

***N.B.***—**The rates fixed in the Tanjore District Cauvery Water-cess Rules are not incorporated in this statement.**

# APPENDIX II.

## I

**Statement showing the financial results of irrigation under Productive and Unproductive Systems for fasli 1356 (1946–47).**

| Systems. | Area charged as irrigated and area irrigated free of charge. | | | | | | Direct receipts. | |
|---|---|---|---|---|---|---|---|---|
| | First crop. | | | Second crop. | | | | |
| | Old irrigation. | New irrigation. | Total. | Old irrigation. | New irrigation. | Total. | Total land and irrigation revenue. | Share due to irrigation. |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| *I. Productive works.* | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | RS. | RS. |
| 1 Godavari Delta system .. .. .. .. .. .. | 156,150 | 732,361 | 888,511 | .. | 352,131 | 352,131 | 74,05,798 | 59,83,394 |
| 2 Kistna Delta system .. .. .. .. .. .. | 70,710 | 912,070 | 982,780 | .. | 23,123 | 23,123 | 66,47,868 | 56,16,806 |
| 3 Divi *cum* Kistna East Bank canal .. .. .. .. .. | 9,900 | 85,006 | 94,906 | .. | 1,902 | 1,902 | 6,33,790 | 6,30,481 |
| 4 Pennar river canals system .. .. .. .. .. .. | 99,080 | 74,395 | 173,475 | 1,050 | 30,120 | 31,170 | 11,13,683 | 9,52,559 |
| 5 Arakkankottai channel .. .. .. .. .. .. | 2,730 | 2,087 | 4,817 | 10 | 977 | 987 | 55,228 | 48,845 |
| 6 Tadepalle channel .. .. .. .. .. .. .. | 9,990 | 8,574 | 18,564 | 170 | 6,705 | 6,875 | 2,00,721 | 1,76,047 |
| 7 Kalingarayan channel .. .. .. .. .. .. | 8,300 | 4,313 | 12,613 | 8,350 | 2,711 | 11,061 | 1,49,659 | 1,32,648 |
| 8 Chembrambakkam tank .. .. .. .. .. .. | 11,370 | 4,655 | 16,025 | 1,160 | 2,363 | 3,523 | 86,414 | 61,190 |
| 9 Poiney anicut system .. .. .. .. .. .. | 15,550 | 7,910 | 23,460 | 2,500 | 6,494 | 8,994 | 1,57,646 | 1,22,029 |
| 10 Cheyyar anicut system .. .. .. .. .. .. | 14,960 | 7,331 | 22,291 | 1,630 | 15,165 | 16,795 | 1,61,529 | 1,17,478 |
| 11 Tirukkoyilur anicut system .. .. .. .. .. .. | 16,080 | 13,716 | 29,796 | 30 | 4,253 | 4,283 | 1,83,714 | 1,37,046 |
| 12 Shatiatope anicut system .. .. .. .. .. .. | 7,160 | 26,891 | 34,051 | .. | 8,283 | 8,283 | 2,30,430 | 1,72,633 |
| 13 Mehamathur anicut system .. .. .. .. .. .. | 990 | 4,100 | 5,090 | .. | 318 | 318 | 38,463 | 27,899 |
| 14 Vriddhachalam anicut system .. .. .. .. .. | 2,430 | 7,698 | 10,128 | .. | 702 | 702 | 67,111 | 47,094 |
| 15 Lower Coleroon anicut system .. .. .. .. .. | 44,760 | 69,003 | 113,763 | 170 | 9,620 | 9,790 | 8,78,869 | 5,99,020 |
| 16 Cauvery Delta system .. .. .. .. .. .. | 743,647 | 175,085 | 918,732 | 33,919 | 109,615 | 143,534 | 68,14,610 | 52,85,382 |
| 17 Nandiyar channel system .. .. .. .. .. .. | 4,680 | 2,856 | 7,536 | 1,570 | 821 | 2,391 | 44,323 | 33,648 |
| 18 Periyar system .. .. .. .. .. .. .. | 65,600 | 78,255 | 143,855 | 16,100 | 39,890 | 55,990 | 11,91,628 | 10,80,720 |
| 19 Srivaikuntam anicut system .. .. .. .. .. | 14,580 | 11,576 | 26,156 | 5,850 | 10,551 | 16,401 | 2,77,905 | 2,35,319 |
| 20 Marudur anicut system .. .. .. .. .. .. | 17,020 | 406 | 17,426 | 590 | 13,032 | 13,622 | 2,44,694 | 2,11,341 |
| 21 Cumbum tank .. .. .. .. .. .. .. | 4,850 | 834 | 5,684 | 2,670 | 1,663 | 4,333 | 46,934 | 42,946 |
| 22 Kattalai scheme .. .. .. .. .. .. .. | 27,860 | 25,438 | 53,298 | 8,250 | 8,840 | 17,090 | 5,32,314 | 4,46,351 |
| 23 Polavaram Island system .. .. .. .. .. .. | .. | 14,789 | 14,789 | .. | 5,687 | 5,687 | 1,75,097 | 1,75,097 |
| 24 Cauvery-Mettur Project .. .. .. .. .. .. | 69,257 | 140,279 | 209,536 | 1,730 | 30,883 | 32,613 | 16,65,700 | 16,24,952 |
| 25 Chicacole minor rivers system .. .. .. .. .. | 51,260 | 28,019 | 79,279 | .. | 8,956 | 8,956 | 2,69,934 | 1,91,303 |
| Total .. | 1,468,914 | 2,437,647 | 3,906,561 | 85,749 | 694,805 | 780,554 | 2,92,74,062 | 2,41,52,228 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *II. Unproductive works.* | | | | | | | | |
| 26 Willingdon reservoir | 2,500 | 15,485 | 17,985 | 260 | 2,260 | 2,520 | 1,42,904 | 1,38,777 |
| 27 Nagavalli river system | 10,600 | 16,855 | 27,455 | 5,200 | − 4,026 | 1,180 | 1,44,577 | 1,17,290 |
| 28 Muniyeru anicut system | 600 | 9,572 | 10,172 | .. | 8 | 8 | 67,832 | 54,593 |
| 29 Jangamaheswarapuram tank | 150 | 112 | 262 | 7 | — 4 | 3 | 1,544 | 1,059 |
| 30 Atmakur tank | .. | 503 | 503 | .. | .. | .. | 2,669 | 2,220 |
| 31 Dondapad tank | .. | 364 | 364 | .. | 222 | 222 | 2,765 | 2,540 |
| 32 Bhavanasi tank | .. | 699 | 699 | .. | 246 | 246 | 7,586 | 7,200 |
| 33 Mopad reservoir | .. | 5,259 | 5,259 | .. | 898 | 898 | 32,329 | 32,156 |
| 34 Hajipuram tank | .. | 865 | 865 | .. | 727 | 727 | 5,455 | 4,853 |
| 35 Ponnalur tank | .. | 775 | 775 | .. | 126 | 126 | 5,575 | 4,384 |
| 36 Anamasamudram-Biraperu tank | 900 | 114 | 1,014 | 80 | 228 | 308 | 5,226 | 4,716 |
| 37 Yerur tank | 80 | 1,076 | 1,156 | .. | .. | .. | 5,104 | 3,960 |
| 38 Sagileru system | 3,600 | 320 | 3,920 | 700 | 1,986 | 2,686 | 28,009 | 25,600 |
| 39 Markapur tank | 450 | 946 | 1,396 | 50 | 1,006 | 1,056 | 11,720 | 11,073 |
| 40 Yellanur tank | .. | 575 | 575 | .. | .. | .. | 2,877 | 2,455 |
| 41 Siddhapur tank | . | 1,008 | 1,008 | .. | .. | .. | 6,897 | 6,897 |
| 42 Nagavaram anicut and supply channel | 452 | 146 | 598 | 235 | — 18 | 217 | 4,372 | 3,655 |
| 43 Venkatapuram tank | .. | 364 | 364 | .. | 301 | 301 | 4,551 | 4,504 |
| 44 Kurnool-Cuddapah canal | 6,643 | 66,699 | 73,342 | .. | 9,660 | 9,660 | 3,81,355 | 3,45,671 |
| 45 Chepad channel | 1,406 | 10,293 | 11,699 | 56 | 943 | 999 | 65,863 | 58,520 |
| 46 Barur tank | 1,760 | 2,547 | 4,307 | 540 | 2,011 | 2,551 | 31,811 | 26,428 |
| 47 Kanniyampalaiyam anicut | .. | 373 | 373 | .. | .. | .. | 2,574 | 2,574 |
| 48 Madras water-supply and irrigation system | 5,630 | 2,362 | 7,992 | 780 | 2 282 | 3,062 | 34,345 | 26,004 |
| 49 Vallur anicut system | 4,030 | 912 | 4,942 | 10 | 593 | 603 | 12,650 | 8,626 |
| 50 Palar anicut system | 53,890 | 26,173 | 80,063 | 16,070 | 25,253 | 41,328 | 5,00,346 | 3,85,789 |
| 51 Pelandorai anicut system | 2,120 | 12,400 | 14,520 | 109 | 962 | 1,062 | 88,555 | 65,992 |
| 52 Thippayapalem project | .. | 753 | 753 | .. | 332 | 332 | 6,636 | 6,636 |
| 53 Panjapatti reservoir | .. | .. | .. | .. | .. | .. | .. | .. |
| 54 Basavanna and Raya channel | .. | 13,141 | 13,141 | .. | 1,195 | 1,195 | 1,09,779 | 99,193 |
| Total | 94,811 | 190,691 | 285,502 | 24,088 | 47,202 | 71,290 | 17,15,906 | 14,53,365 |
| Grand total | 1,563,725 | 2,628,338 | 4,192,063 | 109,837 | 742,007 | 851,844 | 3,09,89,968 | 2,56,05,593 |

NOTE.—The revenue due to old irrigation and new irrigation under the Cauvery Delta System fixed by the Accountant-General with reference to G.O. No. 763 I., dated 25th March 1926, is shown below :—

| Works | Direct receipts. Rs. | Indirect receipts. Rs. | Total. Rs. |
|---|---|---|---|
| Old irrigation | 36,93,191 | 1,16,211 | 38,09,402 |
| New irrigation (improvements) | 15,59,847 | 49,083 | 16,08,930 |
| Total | 52,53,038 | 1,65,294 | 54,18,332 |

## Statement showing the financial results of irrigation under Productive and Unproductive Systems for fasli 1356 (1946–47)—*cont.*

| Systems. | Direct receipts—*cont.* | | | | Indirect receipts. | | | | Total of columns (13) and (17). |
|---|---|---|---|---|---|---|---|---|---|
| | Deduct remissions and deductions. | Net revenue due to irrigation. | Deduct portion due to old irrigation. | Increase of revenue due to the outlay incurred. | Land assessment of waste lands brought under irrigation. | Land revenue of miscellaneous items. | Interest on sale-proceeds of tank bed lands and other waste lands. | Total. | |
| | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
| | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| *I. Productive works*—cont. | | | | | | | | | |
| 1 Godavari Delta system .. .. .. .. .. .. | 4,06,146 | 55,77,248 | 1,24,000 | 54,53,248 | 1,84,227 | 8,161 | 38,345 | 2,30,733 | 56,83,981 |
| 2 Kistna Delta system .. .. .. .. .. .. | 1,90,786 | 54,26,020 | 71,000 | 53,55,020 | 1,01,734 | 16,703 | 73,773 | 1,92,210 | 55,47,230 |
| 3 Divi *cum* Kistna East Bank canal .. .. .. .. .. | 35,181 | 5,95,300 | 20,300 | 5,75,000 | 13,253 | 4,086 | 69,866 | 87,205 | 6,62,205 |
| 4 Pennar river canals system .. .. .. .. .. .. | 13,612 | 9,38,947 | 2,56,000 | 6,82,947 | 46,299 | 3,711 | 23,357 | 73,367 | 7,56,314 |
| 5 Arakkankottai channel .. .. .. .. .. .. | .. | 48,845 | 19,000 | 29,845 | 372 | 56 | .. | 428 | 30,273 |
| 6 Tadepalle channel .. .. .. .. .. .. .. | 572 | 1,75,475 | 76,000 | 99,475 | 2,890 | 39 | .. | 2,929 | 1,02,404 |
| 7 Kalingarayan channel .. .. .. .. .. .. | 224 | 1,32,424 | 85,000 | 47,424 | 419 | 64 | .. | 483 | 47,907 |
| 8 Chembrambakkam tank .. .. .. .. .. .. | 897 | 60,293 | 16,000 | 44,293 | 898 | 59 | .. | 957 | 45,250 |
| 9 Poiney anicut system .. .. .. .. .. .. | 1,823 | 1,20,206 | 38,100 | 82,106 | 5,299 | 131 | 58 | 5,488 | 87,594 |
| 10 Cheyyar anicut system .. .. .. .. .. .. | 848 | 1,16,630 | 39,000 | 77,630 | 3,196 | 104 | 1,435 | 4,735 | 82,365 |
| 11 Tirukkoyilur anicut system .. .. .. .. .. .. | 64 | 1,36,982 | 60,000 | 76,982 | 3,293 | 76 | .. | 3,369 | 80,351 |
| 12 Shatiatope anicut system .. .. .. .. .. .. | 1,173 | 1,71,460 | 20,000 | 1,51,460 | 16,713 | 318 | .. | 17,031 | 1,68,491 |
| 13 Mehamathur anicut system .. .. .. .. .. | 77 | 27,822 | 4,000 | 23,822 | 94 | 23 | 79 | 196 | 24,018 |
| 14 Vriddhachalam anicut system .. .. .. .. .. | 1,015 | 46,079 | 8,500 | 37,579 | 302 | 17 | 20 | 339 | 37,918 |
| 15 Lower Coleroon anicut system .. .. .. .. .. | 1,559 | 5,97,461 | 1,55,000 | 4,42,461 | 51,201 | 318 | 30 | 51,549 | 4,94,010 |
| 16 Cauvery Delta system .. .. .. .. .. .. | 32,344 | 52,53,038 | 33,90,209 | 18,62,829 | 1,20,386 | 10,571 | 34,337 | 1,65,294 | 20,28,123 |
| 17 Nandiyar channel system .. .. .. .. .. .. | 351 | 33,297 | 17,000 | 16,297 | 60 | 18 | 172 | 250 | 16,547 |
| 18 Periyar system .. .. .. .. .. .. .. | 2,759 | 10,77,961 | 2,04,000 | 8,73,961 | 15,400 | 4,940 | 74,523 | 94,863 | 9,68,824 |
| 19 Srivaikuntam anicut system .. .. .. .. .. | 3,576 | 2,31,743 | 79,000 | 1,52,743 | 1,423 | 67 | .. | 1,490 | 1,54,233 |
| 20 Marudur anicut system .. .. .. .. .. .. | 559 | 2,10,782 | 1,15,000 | 95,782 | 237 | 42 | .. | 279 | 96,061 |
| 21 Cumbum tank .. .. .. .. .. .. .. | 11 | 42,935 | 30,000 | 12,935 | 446 | 18 | 8 | 472 | 13,407 |
| 22 Kattalai scheme .. .. .. .. .. .. .. | 4,915 | 4,41,436 | 2,54,000 | 1,87,436 | 21 | .. | 100 | 121 | 1,87,557 |
| 23 Polavaram Island system .. .. .. .. .. .. | 1 | 1,75,096 | .. | 1,75,096 | .. | .. | .. | .. | 1,75,096 |
| 24 Cauvery-Mettur Project .. .. .. .. .. .. | 20,876 | 16,04,076 | 99,971 | 15,04,105 | 3,623 | .. | 26,608 | 30,231 | 15,34,336 |
| 25 Chicacole minor rivers system .. .. .. .. .. | 1,669 | 1,89,634 | 95,000 | 94,634 | 7,065 | 738 | 71 | 7,874 | 1,02,508 |
| Total .. | 7,21,038 | 2,34,31,190 | 52,76,080 | 1,81,55,110 | 5,78,851 | 50,260 | 3,42,782 | 9,71,893 | 1,91,27,003 |

*II. Unproductive works*—cont.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 26 Willingdon reservoir | 163 | 1,38,614 | 10,590 | 1,28,024 | 448 | .. | .. | 448 | 1,28,472 |
| 27 Nagavalli river system | 1,546 | 1,15,744 | 37,400 | 78,344 | 4,661 | 1,092 | 16,051 | 21,804 | 1,00,148 |
| 28 Muniyeru anicut system | 2,272 | 52,321 | 2,500 | 49,821 | 4 | 58 | .. | 62 | 49,883 |
| 29 Jangamaheswarapuram tank | 65 | 994 | 500 | 494 | .. | .. | .. | .. | 494 |
| 30 Atmakur tank | .. | 2,220 | .. | 2,220 | .. | .. | .. | .. | 2,220 |
| 31 Dondapad tank | .. | 2,540 | .. | 2,540 | 8 | 2 | .. | 10 | 2,550 |
| 32 Bhavanasi tank | .. | 7,200 | .. | 7,200 | .. | .. | .. | .. | 7,200 |
| 33 Mopad reservoir | .. | 32,156 | 433 | 31,723 | 659 | .. | 4,511 | 5,170 | 36,893 |
| 34 Hajipuram tank | .. | 4,853 | .. | 4,853 | 38 | 15 | 17 | 70 | 4,923 |
| 35 Ponnalur tank | .. | 4,384 | .. | 4,384 | .. | .. | .. | .. | 4,384 |
| 36 Anamasamudram-Biraperu tank | .. | 4,716 | 3,600 | 1,116 | .. | 1 | .. | 1 | 1,117 |
| 37 Yerur tank | 99 | 3,861 | 425 | 3,436 | 22 | 64 | .. | 86 | 3,522 |
| 38 Sagileru system | 3 | 25,597 | 17,800 | 7,797 | 22 | 4 | .. | 26 | 7,823 |
| 39 Markapur tank | .. | 11,073 | 2,130 | 8,943 | .. | 1 | .. | 1 | 8,944 |
| 40 Yellanur tank | 480 | 1,975 | .. | 1,975 | 613 | .. | 491 | 1,104 | 3,079 |
| 41 Siddhapur tank | .. | 6,897 | .. | 6,897 | .. | .. | .. | .. | 6,897 |
| 42 Nagavaram anicut and supply channel | 811 | 2,844 | 2,256 | 588 | 146 | .. | 871 | 1,017 | 1,605 |
| 43 Venkatapuram tank | .. | 4,504 | .. | 4,504 | .. | .. | .. | .. | 4,504 |
| 44 Kurnool-Cuddapah canal | 492 | 3,45,179 | 28,285 | 3,16,894 | 1,238 | 926 | 559 | 2,723 | 3,19,617 |
| 45 Chepad channel | .. | 58,520 | 7,587 | 50,933 | 505 | 26 | 23 | 554 | 51,487 |
| 46 Barur tank | 885 | 25,543 | 5,900 | 19,643 | 186 | .. | 601 | 787 | 20,430 |
| 47 Kanniyampalaiyam anicut | .. | 2,574 | .. | 2,574 | .. | .. | .. | .. | 2,574 |
| 48 Madras water-supply and irrigation system | 445 | 25,559 | 11,000 | 14,559 | 441 | 21 | .. | 462 | 15,021 |
| 49 Vallur anicut system | 3,885 | 4,741 | 5,000 | — 259 | 1,067 | 7 | .. | 1,074 | 815 |
| 50 Palar anicut system | 17,301 | 3,68,488 | 1,25,000 | 2,43,488 | 15,520 | 320 | 1,012 | 16,852 | 2,60,340 |
| 51 Pelandorai anicut system | 488 | 65,504 | 3,000 | 62,504 | 57 | 21 | 8 | 86 | 62,590 |
| 52 Thippayapalem project | .. | 6,636 | .. | 6,636 | .. | .. | .. | .. | 6,636 |
| 53 Panjapatti reservoir project | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 54 Basavanna and Raya channel | 24 | 99,169 | .. | 99,169 | .. | .. | .. | .. | 99,169 |
| Total .. | 28,959 | 14,24,406 | 2,63,406 | 11,61,000 | 25,635 | 2,558 | 24,144 | 52,337 | 12,13,337 |
| Grand total .. | 7,49,997 | 2,48,55,596 | 55,39,486 | 1,93,16,110 | 6,04,486 | 52,818 | 3,56,926 | 10,24,230 | 2,03,40,340 |

NOTE.—The revenue due to old irrigation and new irrigation under the Cauvery Delta System fixed by the Accountant-General with reference to G.O. No. 763, I., dated 25th March 1936, is shown below:—

| Works. | Direct receipts. | Indirect receipts. | Total revenue. |
|---|---|---|---|
| | RS. | RS. | RS. |
| Old Irrigation .. | 36,93,191 | 1,16,211 | 38,09,402 |
| New Irrigation-(Improvements) | 15,59,847 | 49,083 | 16,08,930 |
| Total .. | 52,53,038 | 1,65,294 | 54,18,332 |

## II

| Systems. | Net receipts direct and indirect. | | | | Gross indirect receipts. | | |
|---|---|---|---|---|---|---|---|
| | Average for five years 1944–45. | Actuals, 1945-46. | 1946–47. | | Actuals 1945–46. | 1946–47. | |
| | | | Revised estimates. | Actuals. | | Revised estimates. | Actuals. |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| *I. Productive Works.* | | | | | | | |
| 1 Godavari Delta system.. | 46,53,426 | 42,30,782 | 49,83,000 | 54,01,699 | 2,30,733 | 1,23,699 | 2,30,733 |
| 2 Kistna Delta system .. | 45,69,278 | 47,12,309 | 50,39,000 | 52,73,557 | 1,92,210 | 2,05,230 | 1,92,210 |
| 3 Divi *cum* Kistna East Bank canal. | 5,76,172 | 5,68,671 | 6,11,000 | 6,32,588 | 87,205 | 87,205 | 87,205 |
| 4 Pennar River Canals system. | 4,43,885 | 6,01,413 | 6,98,000 | 7,19,666 | 73,367 | 73,367 | 73,367 |
| 5 Arakkankottai channel.. | 18,109 | 20,576 | 26,000 | 28,759 | 428 | 430 | 428 |
| 6 Tadepalli channel .. | 67,131 | 91,488 | 86,000 | 97,284 | 2,929 | 3,000 | 2,929 |
| 7 Kalingarayan channel. | 36,114 | 49,888 | 33,000 | 45,512 | 483 | 483 | 483 |
| 8 Chembarambakkam tank. | 33,233 | 40,175 | 43,000 | 42,987 | 957 | 957 | 957 |
| 9 Poiney anicut system .. | 59,771 | 35,730 | 91,000 | 83,217 | 5,488 | 5,488 | 5,488 |
| 10 Cheyyar anicut system.. | 57,489 | 70,863 | 71,000 | 78,318 | 4,735 | 4,735 | 4,735 |
| 11 Tirukkoyilur anicut system. | 64,361 | 76,583 | 78,000 | 76,333 | 3,369 | 3,369 | 3,369 |
| 12 Shatiyatope anicut system. | 1,41,920 | 1,47,411 | 1,53,000 | 1,60,066 | 17,031 | 17,031 | 17,031 |
| 13 Mehamathur anicut system. | 19,003 | 20,749 | 21,000 | 22,821 | 196 | 196 | 196 |
| 14 Vriddhachalam anicut system. | 28,416 | 36,068 | 34,000 | 36,023 | 339 | 339 | 339 |
| 15 Lower Coleroon anicut system. | 3,64,079 | 4,65,339 | 5,68,000 | 4,69,311 | 51,549 | 56,006 | 51,549 |
| 16 Cauvery Delta system .. | 11,40,948 | 18,95,261 | 20,01,000 | 19,28,434 | 1,63,631 | 1,43,737 | 1,65,294 |
| 17 Nandiyar channel system. | 13,135 | 16,240 | 16,000 | 15,728 | 250 | 250 | 250 |
| 18 Periyar system .. .. | 7,61,019 | 8,91,020 | 8,78,000 | 9,24,109 | 94,863 | 94,863 | 94,863 |
| 19 Srivaikuntam anicut system. | 1,26,096 | 1,44,126 | 1,44,000 | 1,46,522 | 1,490 | 1,490 | 1,490 |
| 20 Marudur anicut system. | 52,584 | 90,156 | 90,000 | 91,258 | 279 | 279 | 279 |
| 21 Cumbum tank .. .. | 6,064 | 1,762 | 9,000 | 12,738 | 472 | 464 | 472 |
| 22 Kattalai scheme .. | 1,01,967 | 1,61,653 | 1,62,000 | 1,78,184 | 121 | 121 | 121 |
| 23 Polavaram Island system. | 97,973 | 1,11,881 | 1,06,000 | 1,66,341 | .. | .. | .. |
| 24 Cauvery-Mettur Project. | 15,05,200 | 14,98,200 | 17,16,000 | 14,58,950 | 28,740 | 20,000 | 30,231 |
| 25 Chicacole minor rivers system. | 55,880 | 97,928 | 96,000 | 97,386 | 7,874 | 7,874 | 7,874 |
| *II. Unproductive Works.* | | | | | | | |
| 26 Willingdon Reservoir .. | 1,27,676 | 1,34,021 | 1,37,000 | 1,22,048 | 448 | 448 | 448 |
| 27 Nagavalli river system. | 91,684 | 86,900 | 1,09,000 | 95,943 | 21,804 | 26,470 | 21,804 |
| 28 Muniyeru anicut system. | 37,687 | 50,891 | 44,000 | 47,389 | 62 | 62 | 62 |
| 29 Jangamaheswarapuram tank. | 523 | 632 | 1,000 | 469 | .. | .. | .. |
| 30 Atmakur tank .. .. | 1,675 | 1,682 | 2,000 | 2,109 | .. | .. | .. |
| 31 Dondapad tank .. | 2,378 | 1,785 | 2,000 | 2,423 | 10 | 10 | 10 |
| 32 Bhavanasi tank .. | 3,378 | 5,620 | 6,000 | 6,840 | .. | .. | .. |
| 33 Mopad reservoir .. | 39,119 | 56,707 | 50,000 | 35,274 | 5,170 | 5,170 | 5,170 |
| 34 Hajipuram tank .. | 4,100 | 833 | 5,000 | 4,678 | 70 | 70 | 70 |
| 35 Ponnalur tank .. .. | 3,978 | 4,138 | 4,000 | 4,165 | .. | .. | .. |
| 36 Anamasamudram Biraperu tank. | 1,807 | — 2,863 | 1,000 | 1,061 | 1 | 1 | 1 |
| 37 Yerur tank .. .. | 1,856 | 439 | 2,000 | 3,346 | 86 | 86 | 86 |
| 38 Sagileru system .. | 1,161 | — 4,782 | .. | 7,432 | 26 | 26 | 26 |
| 39 Markapur tank .. .. | 5,804 | 4,691 | 6,000 | 8,497 | 1 | 1 | 1 |
| 40 Yellanur tank .. .. | 2,869 | 2,989 | 3,000 | 2,950 | 1,104 | 1,104 | 1,104 |
| 41 Siddhapur tank .. | 4,363 | 6,599 | 6,000 | 6,552 | .. | .. | .. |
| 42 Nagavaram anicut and supply channel. | 2,620 | 1,413 | 2,000 | 1,568 | 1,017 | 1,017 | 1,017 |
| 43 Venkatapuram tank .. | 1,692 | 2,796 | 3,000 | 4,273 | .. | .. | .. |
| 44 Kurnool-Cuddapah canal. | 2,77,756 | 2,99,077 | 3,17,000 | 3,03,664 | 2,723 | 1,004 | 2,723 |
| 45 Chepad channel .. | 39,462 | 43,146 | 44,000 | 48,914 | 554 | 554 | 554 |
| 46 Barur tank .. .. | 17,449 | 17,921 | 19,000 | 19,439 | 787 | 787 | 787 |
| 47 Kanniyampalayam anicut. | 889 | 2,563 | 3,000 | 2,446 | .. | 441 | .. |
| 48 Madras water-supply and irrigation system. | 9,642 | 12,854 | 13,000 | 14,270 | 462 | 462 | 462 |
| 49 Vallur anicut system .. | 2,200 | 4,064 | 4,000 | 775 | 1,074 | 1,074 | 1,074 |
| 50 Palar anicut system .. | 1,58,968 | 1,15,039 | 2,46,000 | 2,47,374 | 16,852 | 16,852 | 16,852 |
| 51 Pelandorai anicut system. | 75,739 | 58,163 | 56,000 | 59,461 | 86 | 86 | 86 |
| 52 Tippayapalem project .. | 11,622 | 2,538 | 4,000 | 6,304 | .. | .. | .. |
| 53 Panjapatti reservoir project. | .. | .. | .. | .. | .. | .. | .. |
| 54 Basavanna and Raya channel. | .. | 98,852 | 94,000 | 94,211 | .. | .. | .. |

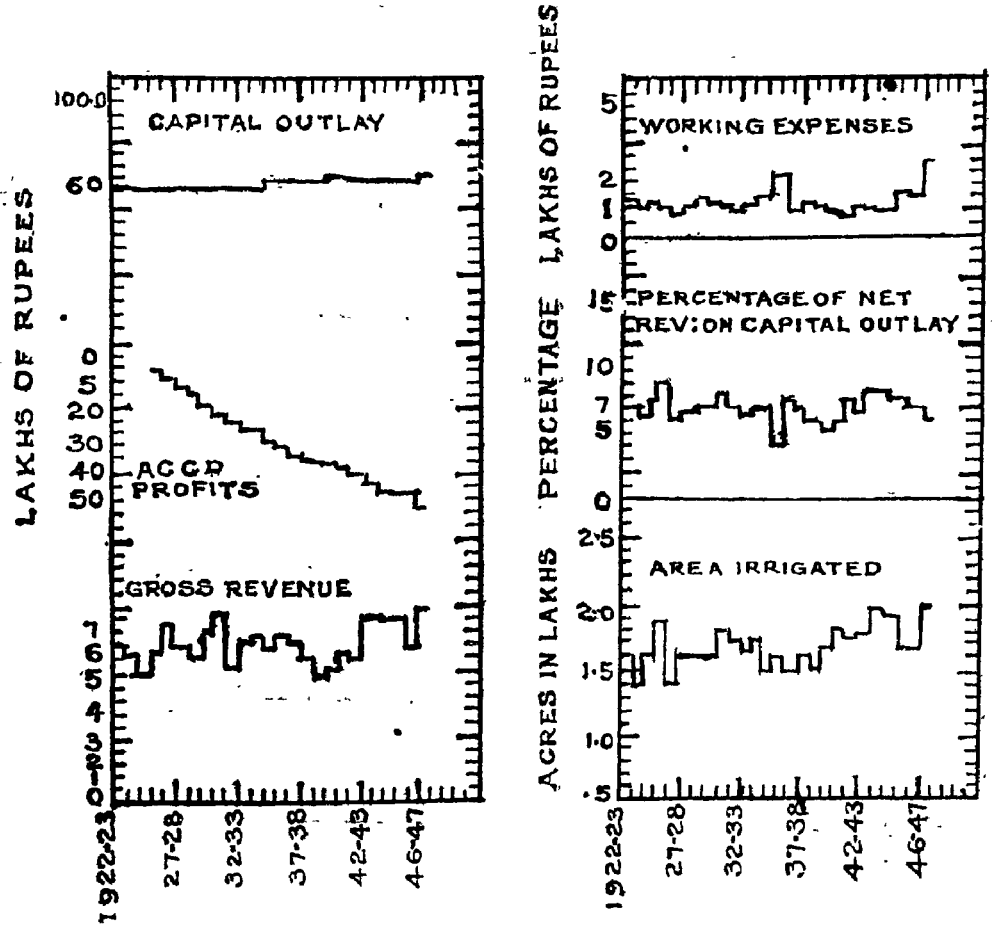
# APPENDIX III.

## Statement showing the extent irrigated and the revenue derived under "Minor Works" in fasli 1356 (1946–47).

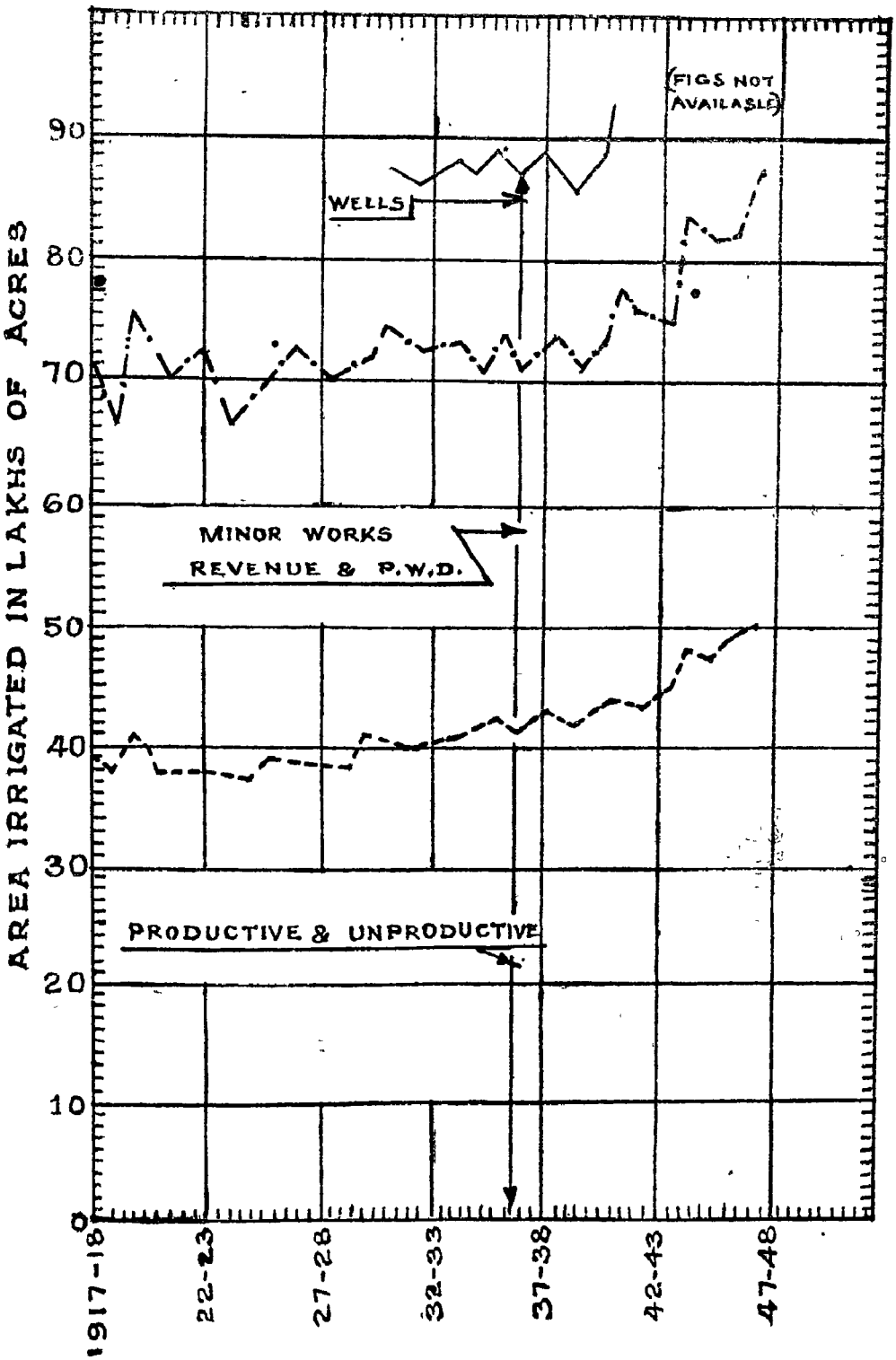
| Districts. | Area irrigated and charged and area irrigated free of charge. First crop. | Area irrigated and charged and area irrigated free of charge. Second crop. | Total land and irrigation revenue. | Share due to irrigation. | Deduct remissions and deductions. | Net revenue due to irrigation. |
|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| *Works in charge of the Revenue Department.* | | | | | | |
| | ACS. | ACS. | RS. | RS. | RS | RS. |
| Vizagapatam .. | 79,250 | 7,150 | 2,61,890 | 1,78,513 | 23,568 | 1,54,945 |
| East Godavari .. | 82,567 | 5,767 | 3,42,944 | 2,69,016 | 47,167 | 2,21,849 |
| West Godavari .. | 26,501 | 1,160 | 97.613 | 83,537 | 11,656 | 71,881 |
| Kistna .. .. | 25,599 | 261 | 1,39,401 | 1,20,179 | 6,453 | 1,13,726 |
| Guntur .. .. | 29,899 | 2,009 | 1,75,897 | 1,37,720 | 5,945 | 1,31,775 |
| Nellore .. .. | 86,751 | 18,255 | 4,58,596 | 3,88,005 | 29,959 | 3,58,046 |
| Cuddapah .. .. | 83,888 | 22,456 | 3,62,722 | 3,08,585 | 28,602 | 2,79,983 |
| Anantapur .. .. | 120,685 | 38,279 | 6,10,904 | 5,31,511 | 75,008 | 4,56,503 |
| Bellary .. .. | 28,001 | 6,259 | 1,56,859 | 1,40,281 | 10,424 | 1,29,857 |
| Kurnool .. .. | 43,356 | 9,433 | 1,79,535 | 1,55,242 | 11,199 | 1,44,043 |
| Chittoor .. .. | 110,762 | 31,846 | 5,63,134 | 4,57,134 | 29,356 | 4,27,778 |
| Chingleput .. .. | 182,542 | 66,042 | 7,46,213 | 5,44,131 | 14,360 | 5,29,771 |
| North Arcot .. | 191,727 | 97,616 | 12,22,259 | 9,02,404 | 16,665 | 8,85,739 |
| South Arcot .. | 288,467 | 67,061 | 14,30,722 | 10,42,191 | 16,936 | 10,25,255 |
| Tanjore .. .. | 49,101 | 5,653 | 1,25,208 | 96,844 | 1,642 | 95,202 |
| Trichinopoly .. | 89,925 | 31,262 | 4,66,809 | 3,59,460 | 6,194 | 3,53,266 |
| Madura .. .. | 125,390 | 31,207 | 6,41,878 | 5,24,666 | 4,141 | 5,20,525 |
| Ramnad .. .. | 21,690 | 7,501 | 1,37,347 | 1,16,722 | 12,498 | 1,04,224 |
| Tinnevelly .. .. | 121,780 | 53,819 | 6,37,726 | 5,48,198 | 9,841 | 5,38,357 |
| Coimbatore .. .. | 40,193 | 11,257 | 2,21,770 | 1,90,395 | 3,582 | 1,86,813 |
| Salem .. .. | 92,797 | 32,693 | 5,45,237 | 4,11,607 | 21,537 | 3,90,070 |
| Total of Minor Works —Revenue Department. | 1,870,871 | 546,989 | 95,24,664 | 75,06,341 | 3,86,733 | 71,19,608 |
| *Works in charge of the Public Works Department.* | | | | | | |
| Vizagapatam .. | 62,051 | 8,731 | 4,80,407 | 3,17,900 | 51,205 | 2,66,695 |
| East Godavari .. | 43,283 | 12,998 | 2,59,229 | 2,13,377 | 17,602 | 1,95,775 |
| West Godavari .. | 21,226 | 363 | 93,624 | 80,891 | 6,214 | 74,677 |
| Kistna .. .. | 2,416 | 13 | 12,326 | 10,870 | .. | 10,870 |
| Guntur .. .. | 3,626 | 136 | 19,391 | 15,387 | 1 | 15,386 |
| Nellore .. .. | 61,861 | 8,595 | 3,71,304 | 3,10,432 | 28,078 | 2,82,354 |
| Cuddapah .. .. | 32,514 | 9,815 | 1,74,269 | 1,50,612 | 7,871 | 1,42,741 |
| Anantapur .. .. | 39,328 | 15,726 | 2,21,890 | 1,94,427 | 34,240 | 1,60,187 |
| Bellary .. .. | 28,782 | 7,372 | 2,21,116 | 1,96,741 | 12,155 | 1,84,586 |
| Kurnool .. .. | 8,385 | 1,728 | 49,379 | 43,219 | 1,852 | 41,367 |
| Chittoor .. .. | 14,984 | 4,544 | 85,407 | 68,790 | 2,998 | 65,792 |
| Chingleput .. .. | 186,581 | 75,572 | 8,56,875 | 6,26,618 | 17,185 | 6,09,433 |
| North Arcot .. | 49,425 | 28,040 | 3,40,046 | 2,54,437 | 4,509 | 2,49,928 |
| South Arcot .. | 91,040 | 24,845 | 6,06,666 | 4,41,053 | 9,311 | 4,31,742 |
| Tanjore .. .. | 13,085 | 1,657 | 42,795 | 32,656 | 3,342 | 29,314 |
| Trichinopoly .. | 48,700 | 24,659 | 3,64,371 | 2,77,856 | 5,724 | 2,72,132 |
| Madura .. .. | 24,859 | 11,159 | 1,66,441 | 1,35,193 | 99 | 1,35,094 |
| Ramnad .. .. | 14,278 | 5,907 | 1,13,188 | 96,200 | 6,645 | 89,555 |
| Tinnevelly .. .. | 94,008 | 56,597 | 9,64,567 | 8,11,960 | 6,424 | 8,05,536 |
| Coimbatore .. .. | 36,942 | 12,699 | 2,96,415 | 2,44,370 | 412 | 2,43,958 |
| Salem .. .. | 30,747 | 11,171 | 2,21,526 | 1,66,066 | 6,038 | 1,60,028 |
| Total of Minor Works —Public Works Department. | 908,121 | 322,327 | 59,61,232 | 46,89,055 | 2,21,905 | 44,67,150 |
| Total of Minor Works —Revenue Department. | 1,870,871 | 546,989 | 95,24,664 | 75,06,341 | 3,86,733 | 71,19,608 |
| Grand total, Minor Works. | 2,778,992 | 869,316 | 1,54,85,896 | 1,21,95,396 | 6,08,638 | 1,15,86,758 |

FINANCIAL RECORD

# PENNER RIVER CANAL SYSTEM

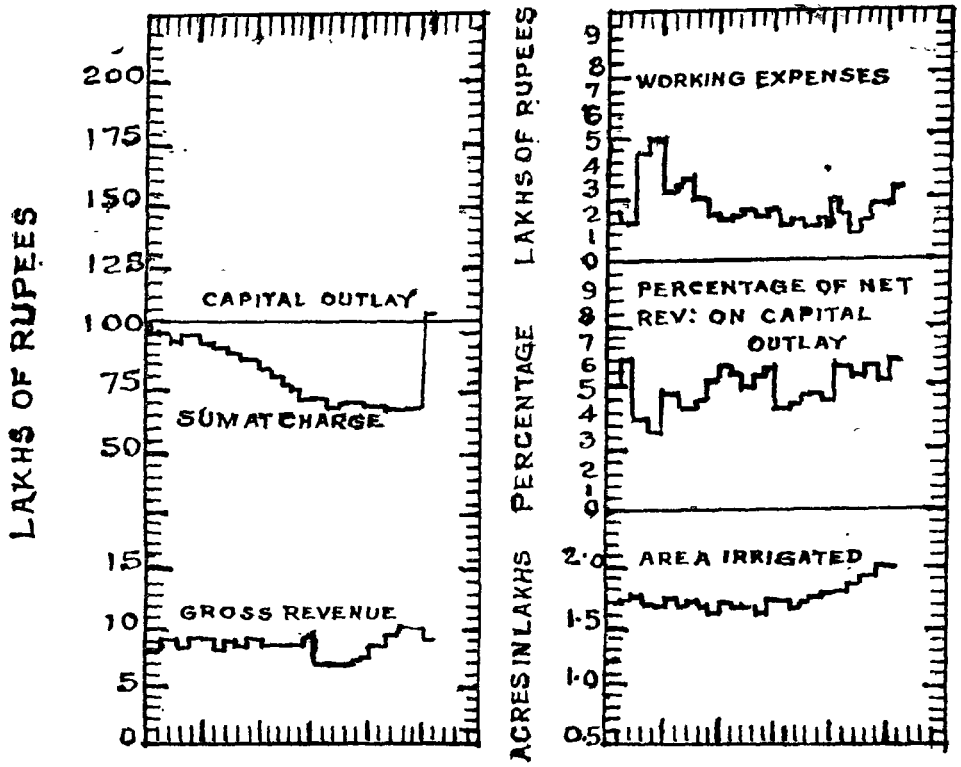


# DIAGRAM SHOWING THE AREA IRRIGATED IN MADRAS

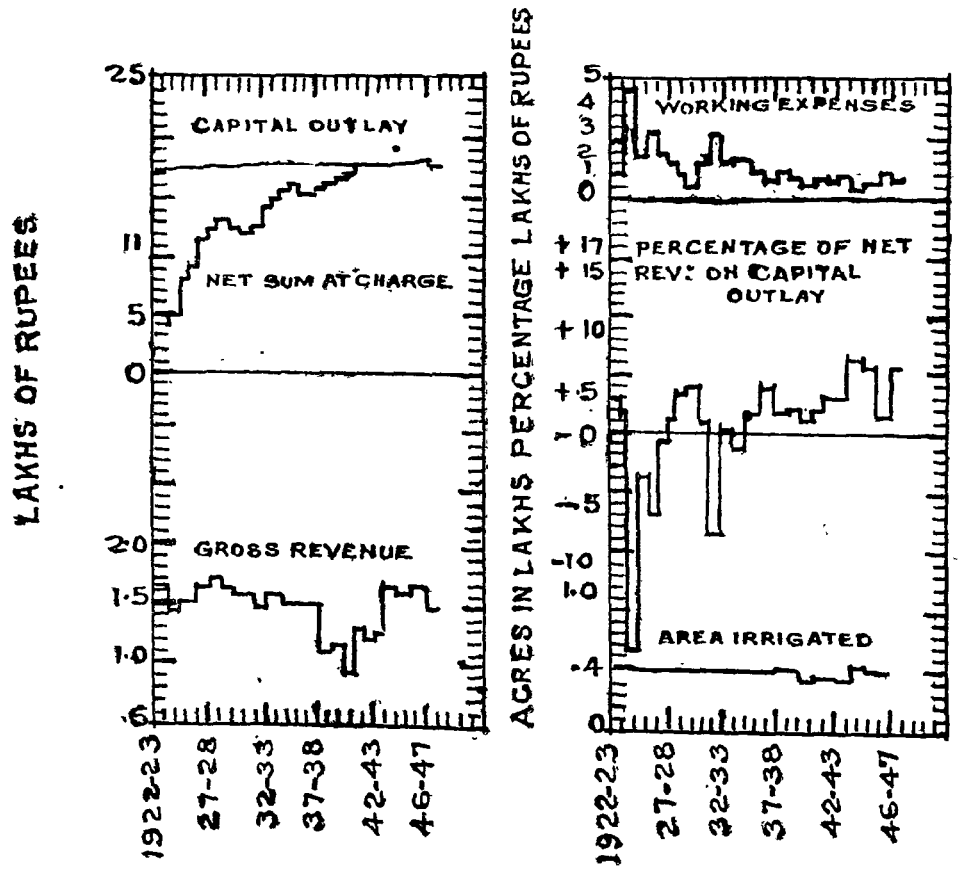


## FINANCIAL RECORD

### PERIYAR SYSTEM

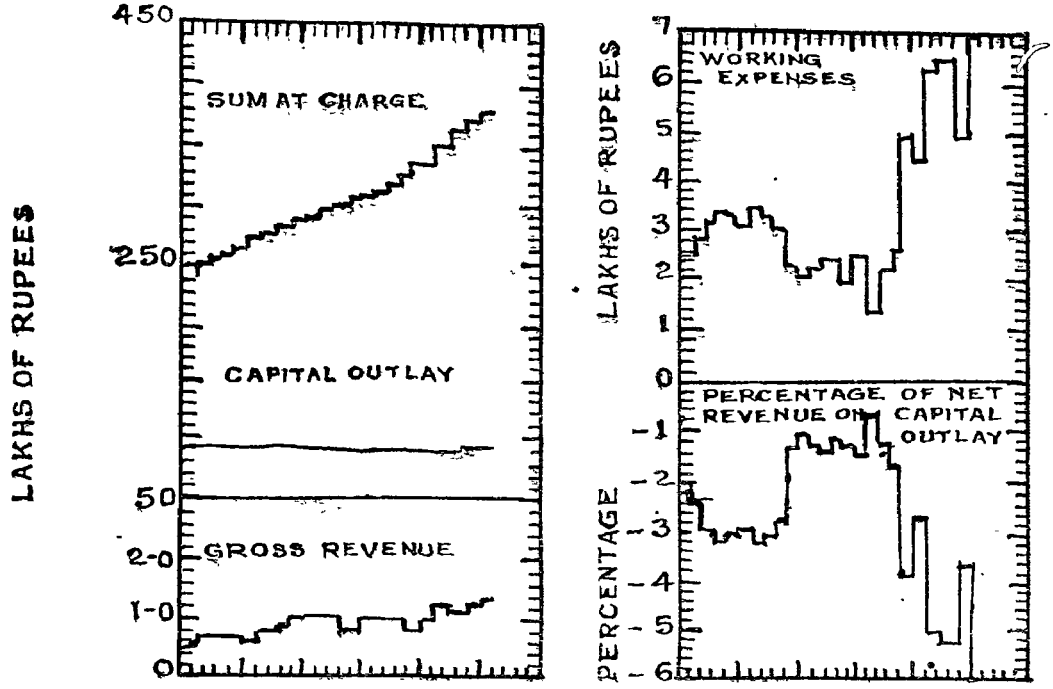



### SRIVAIKUNTAM ANICUT SYSTEM

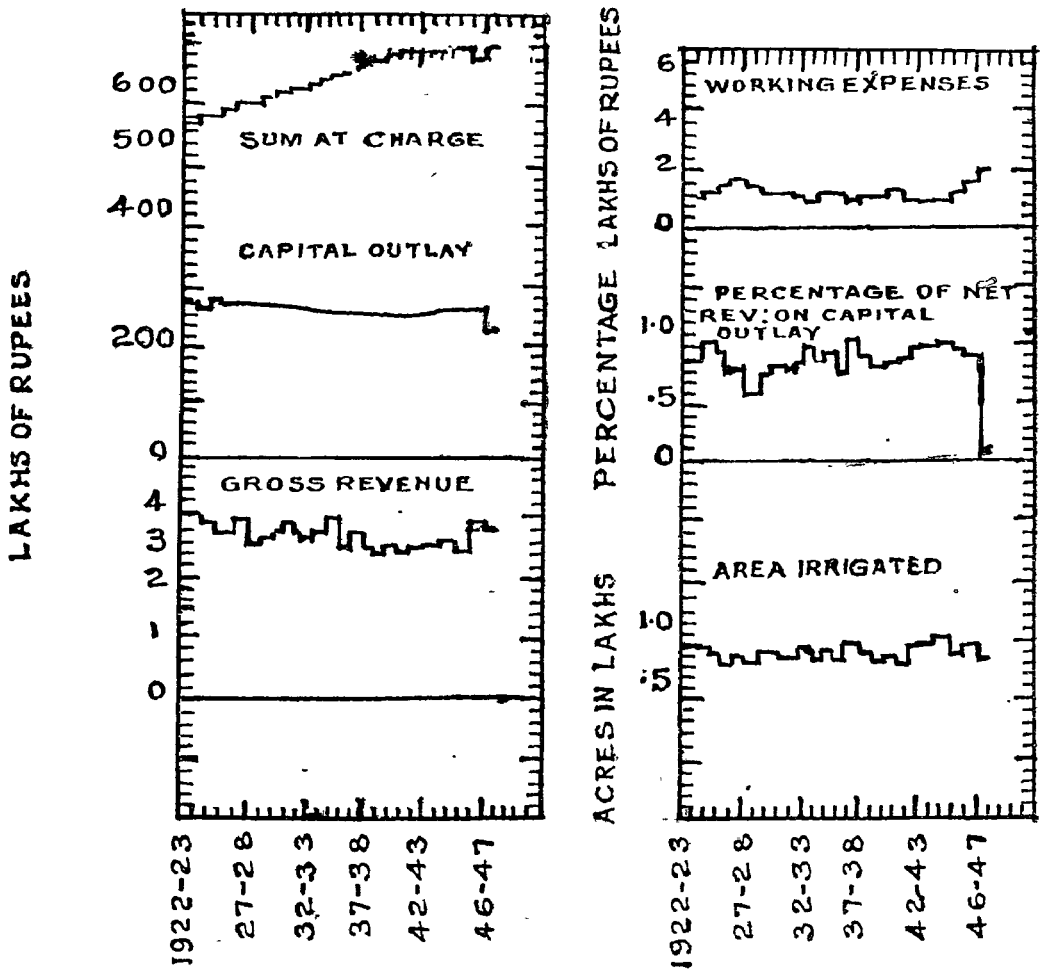


FINANCIAL RECORD

## BUCKINGHAM CANAL

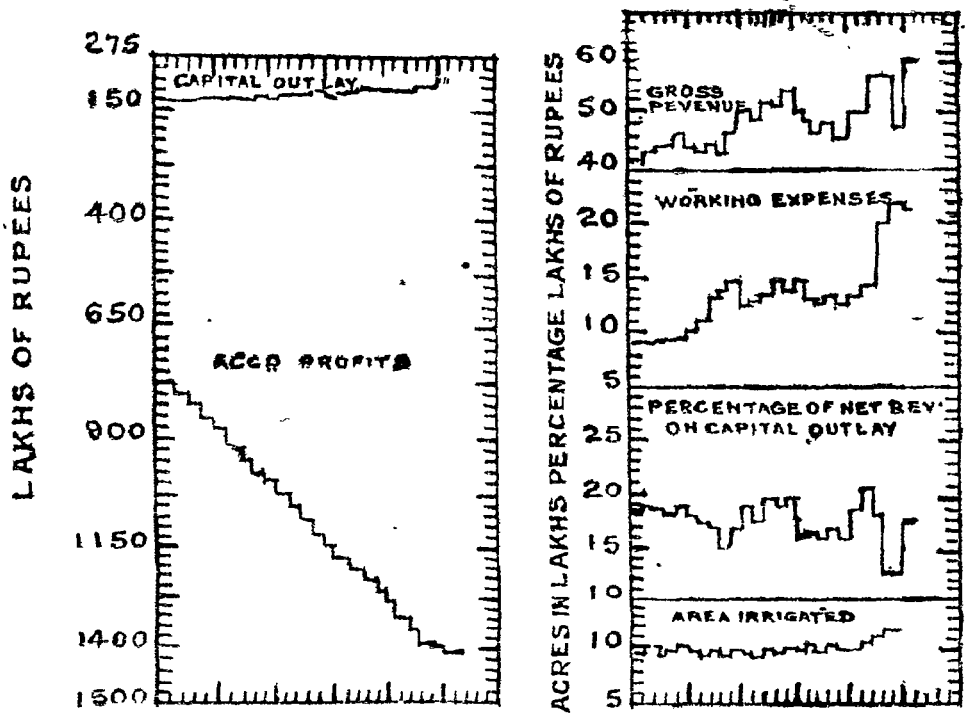



## KURNOOL CUDDAPAH CANAL

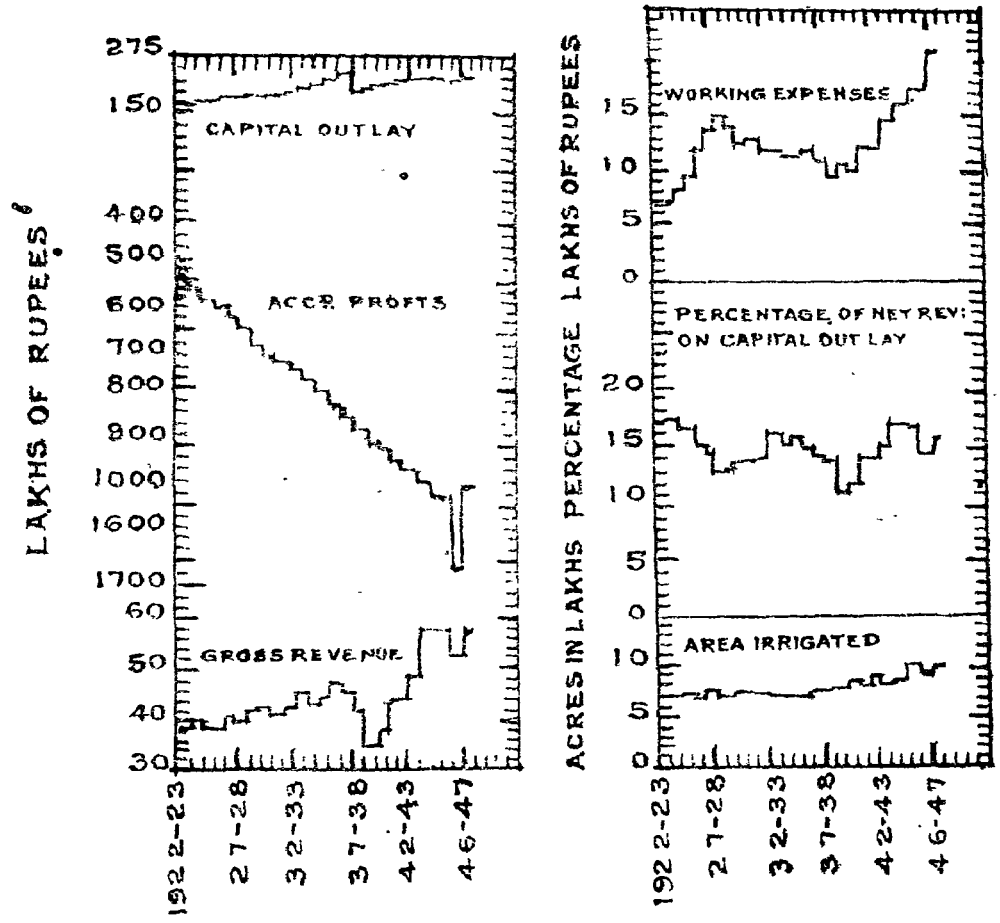


## FINANCIAL RECORD

## GODAVARI DELTA SYSTEM

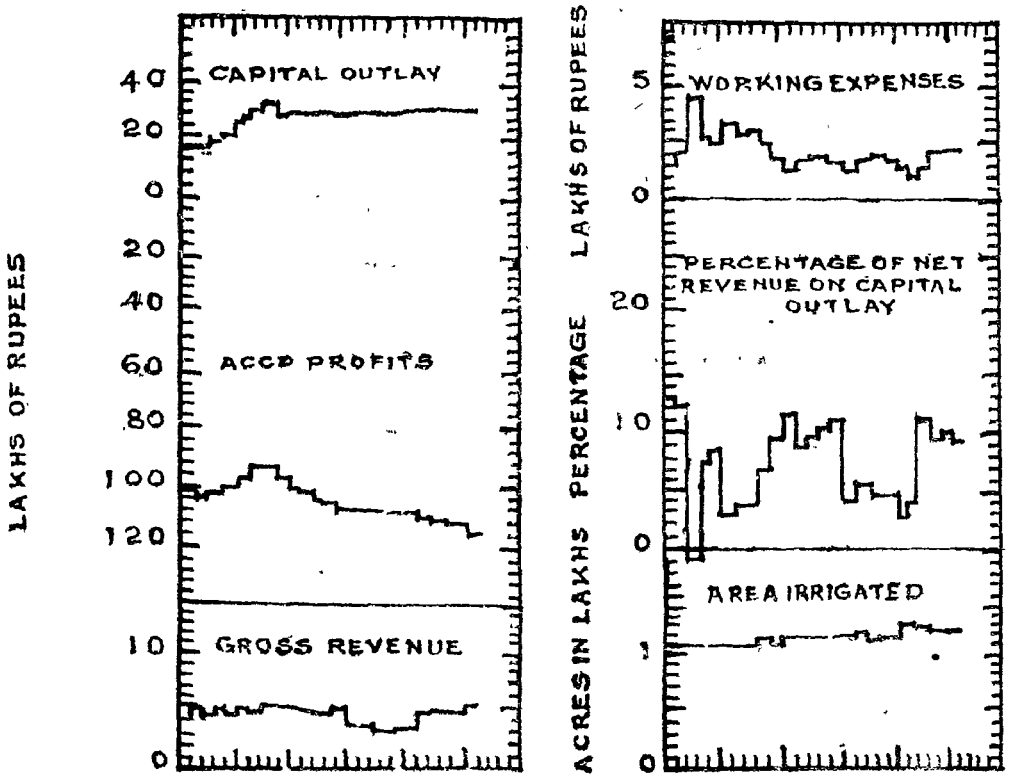



## KISTNA DELTA SYSTEM

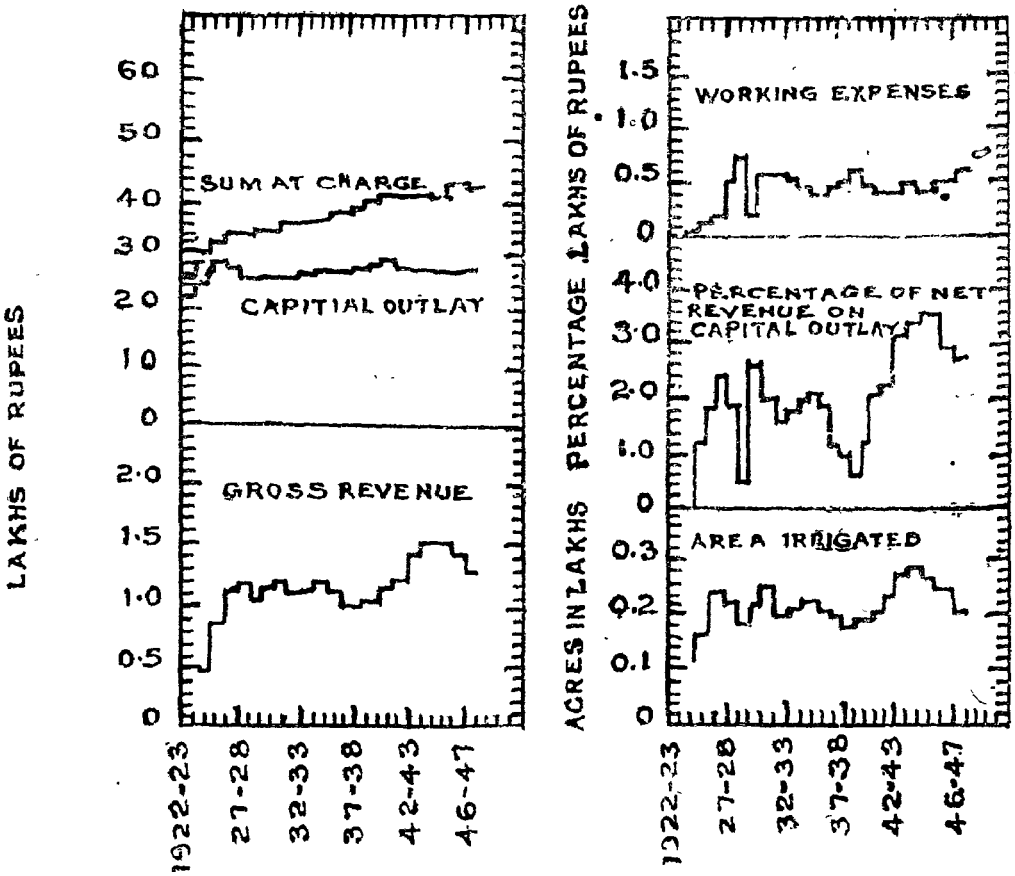


FINANCIAL RECORD

## LOWER COLEROON AINCUT SYSTEM

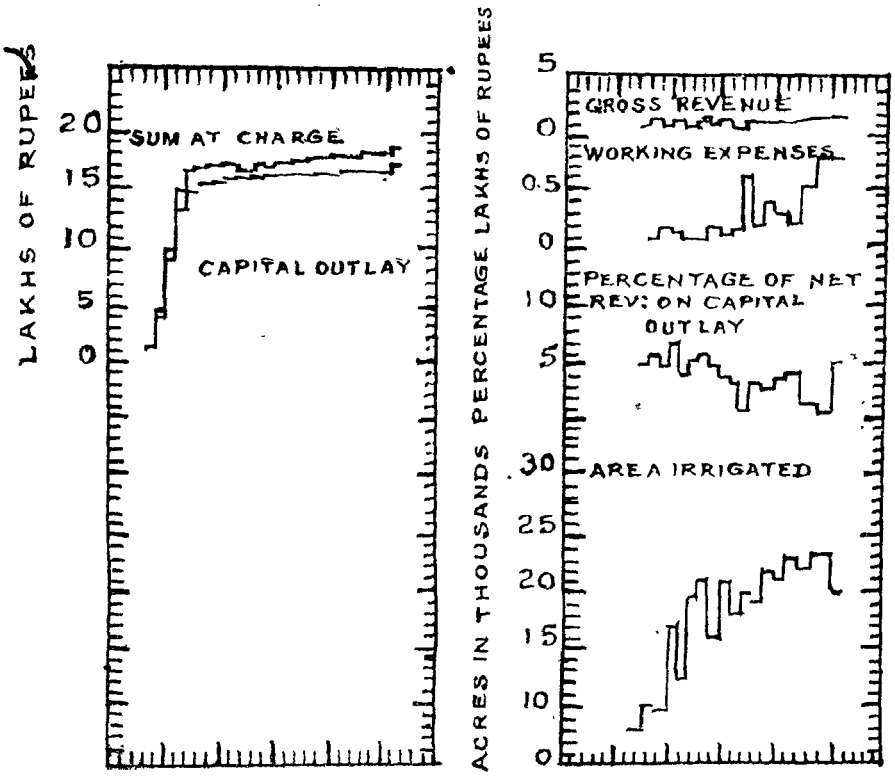



## TOLUDUR PROJECT

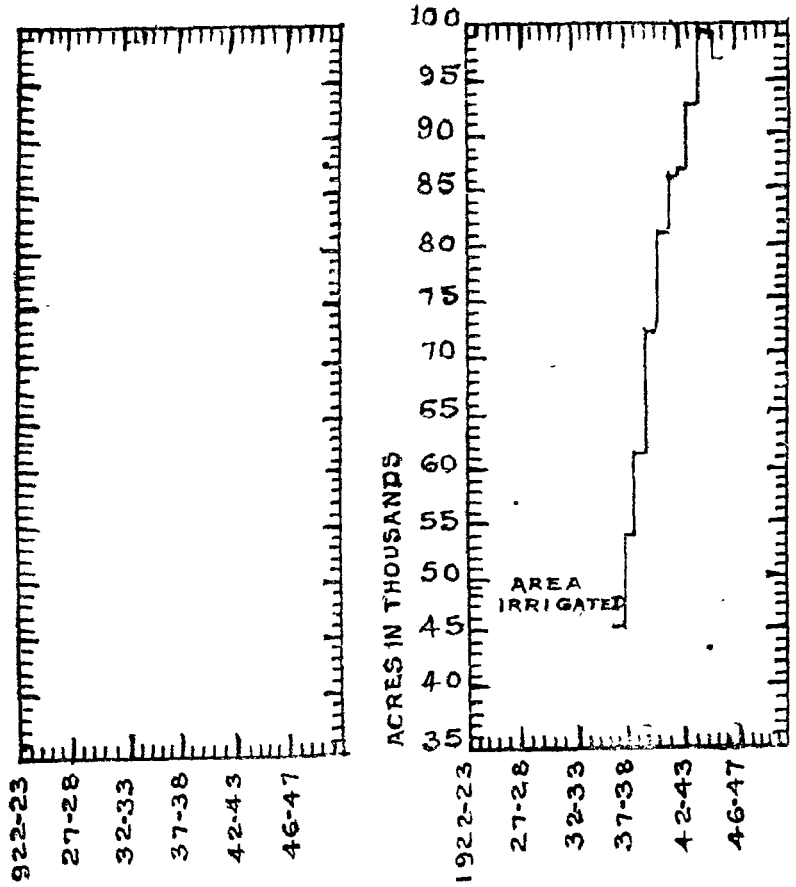


## FINANCIAL RECORD

## POLAVARAM ISLAND

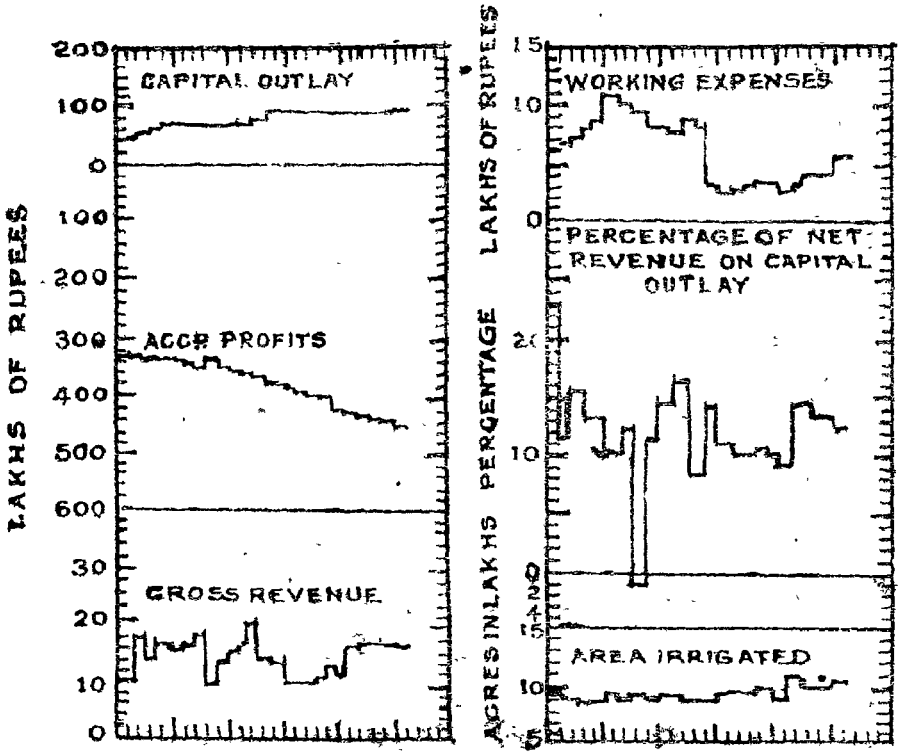



## KISTNA EAST BANK CANAL

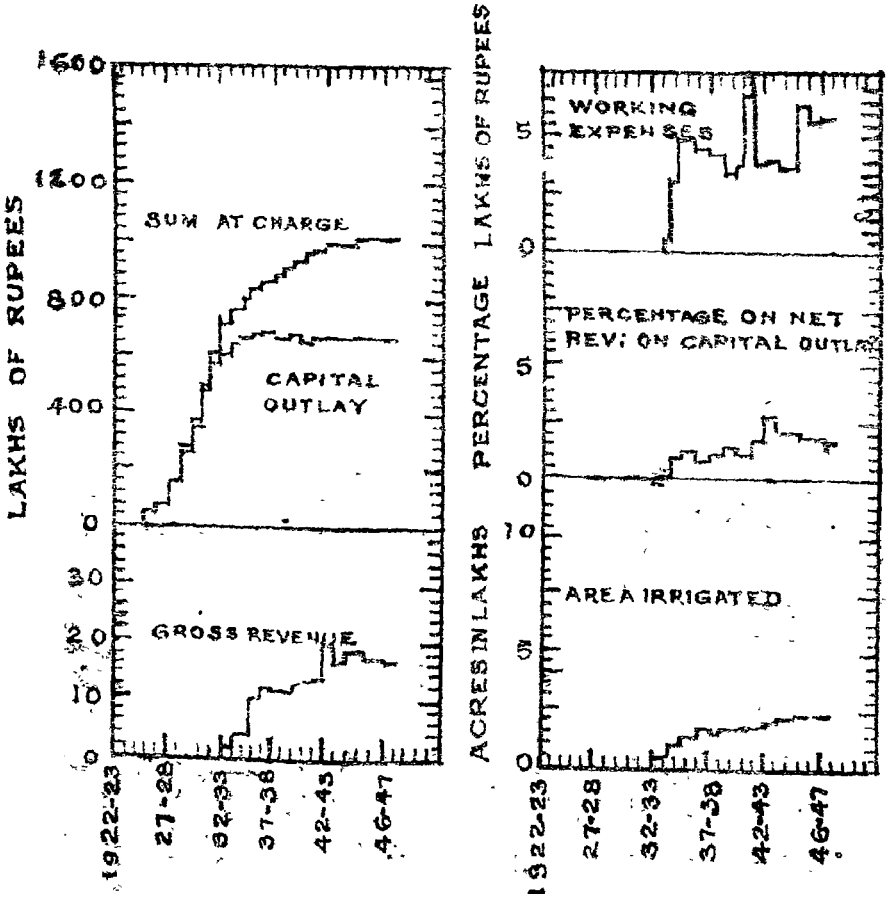


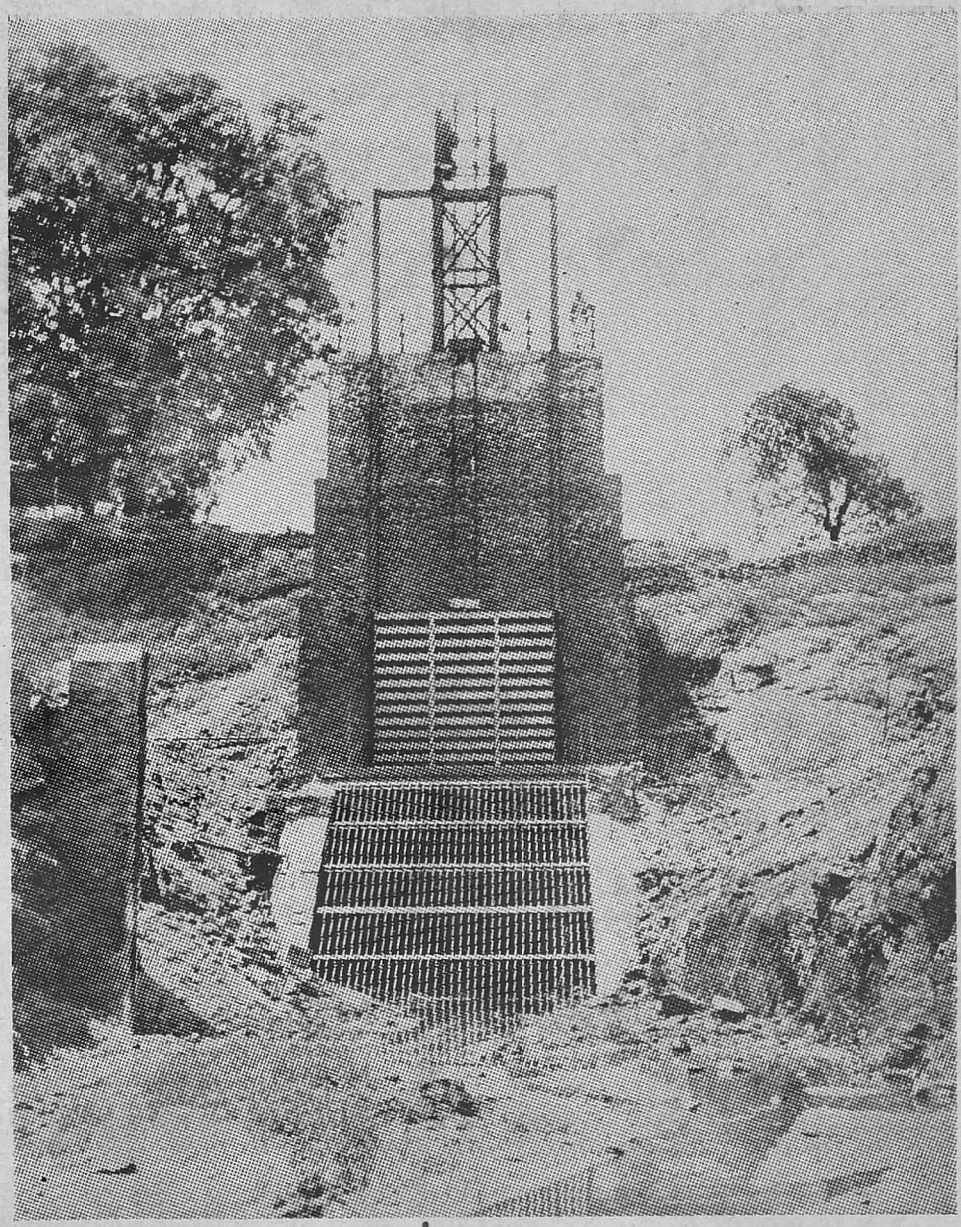
## FINANCIAL RECORD

## CAUVERY DELTA SYSTEM

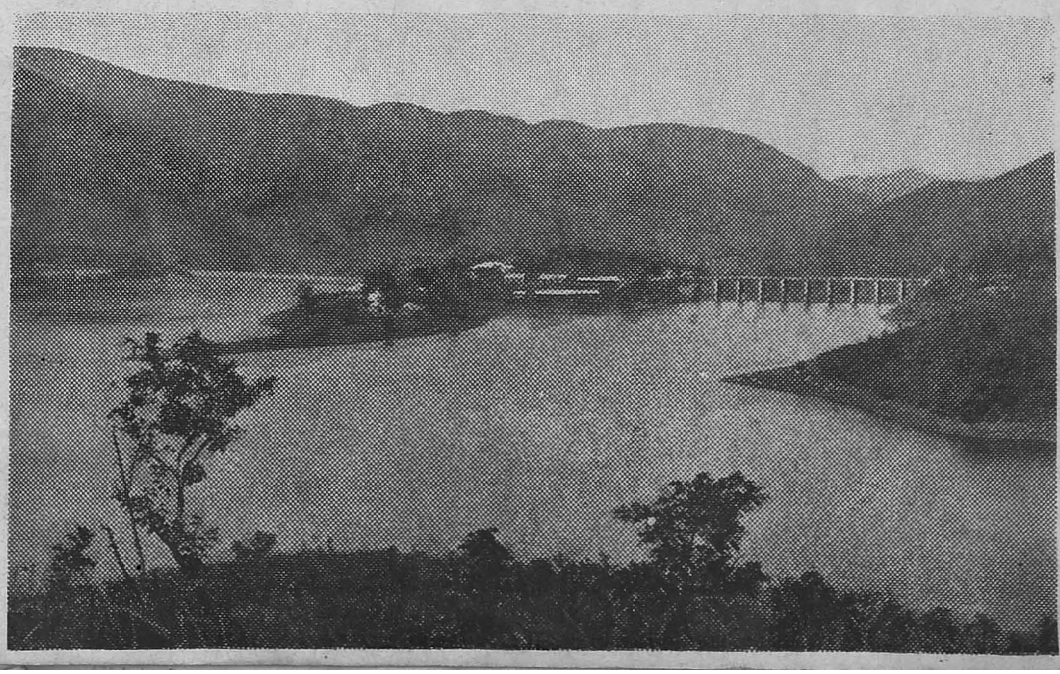


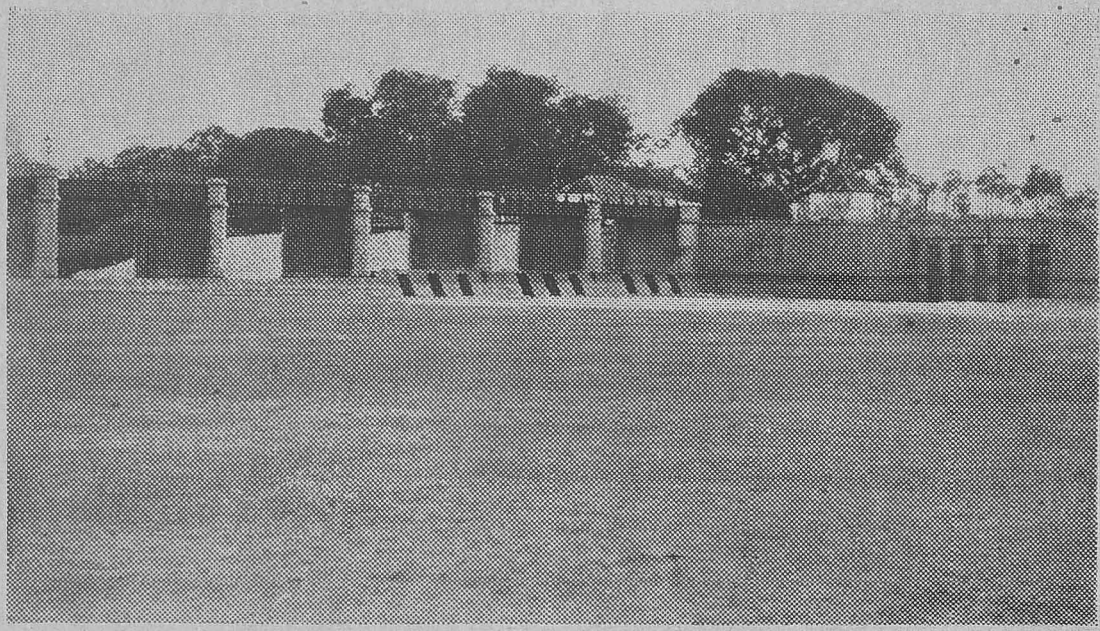

## CAUVERY-METTUR PROJECT



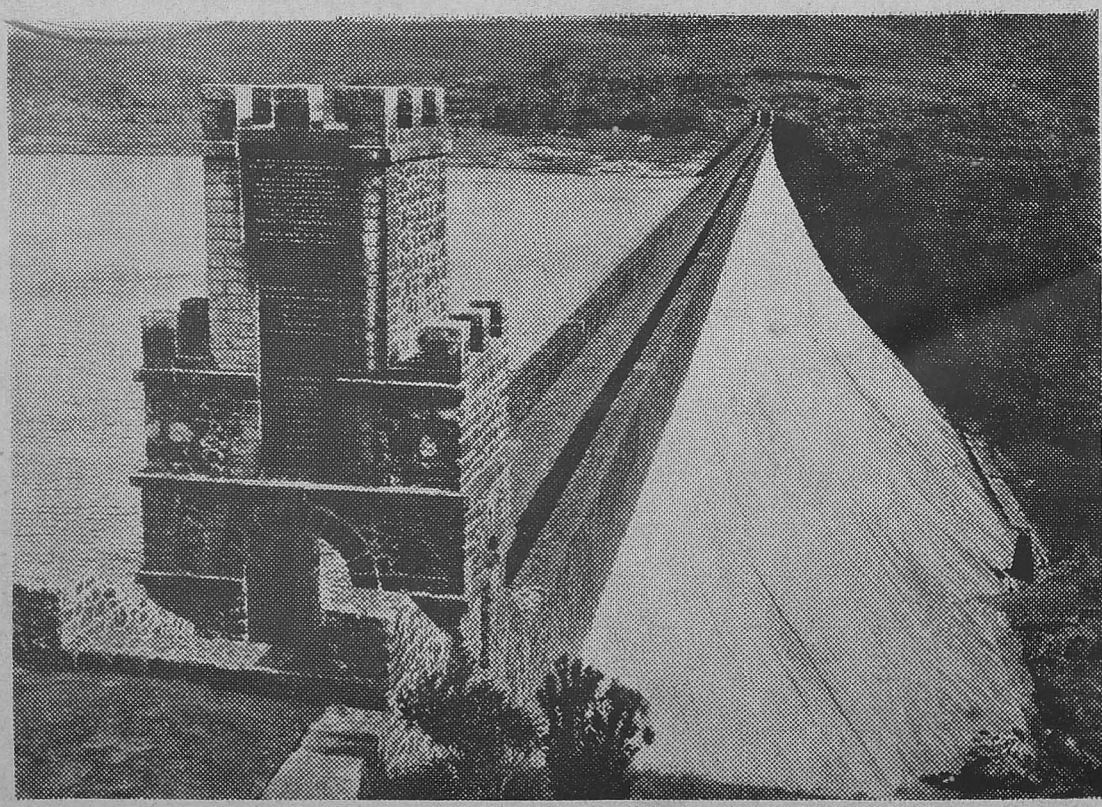


SLUICE AT HEAD OF TUNNEL OF PERIYAR HEAD WORKS





LEFT—FRONT VIEW OF SRIVAIKUNTAM ANICUT AND SOUTH HEAD SLUICE
TAKEN FROM NORTH-WEST

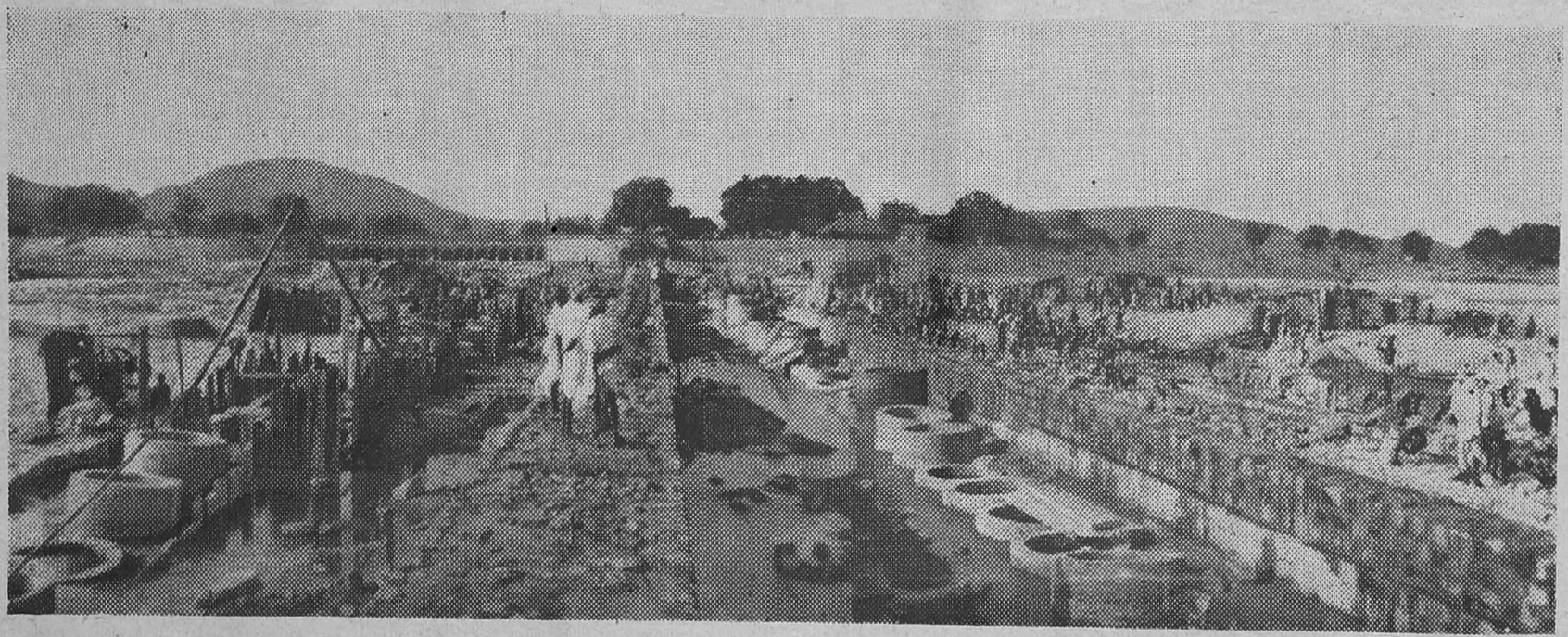


VIEW OF THE PERIYAR DAM AND LAKE

VIEW FROM SOUTH END OF BREACH LOOKING NORTH—30TH MAY 1947

*Restoration of Sangam Anicut across Pennar River.*—A length of 450′ of the Sangam Anicut across Pennar River was washed away in the unprecedented floods of December 1946. The picture shows the reconstruction in progress. About 1,500 men are employed on the work. The cost of restoration is about Rs. 7·5 lakhs.

Head sluice
Kanigiri main canal.



Front apron (loose)

Front row of wells

Anicut body wall

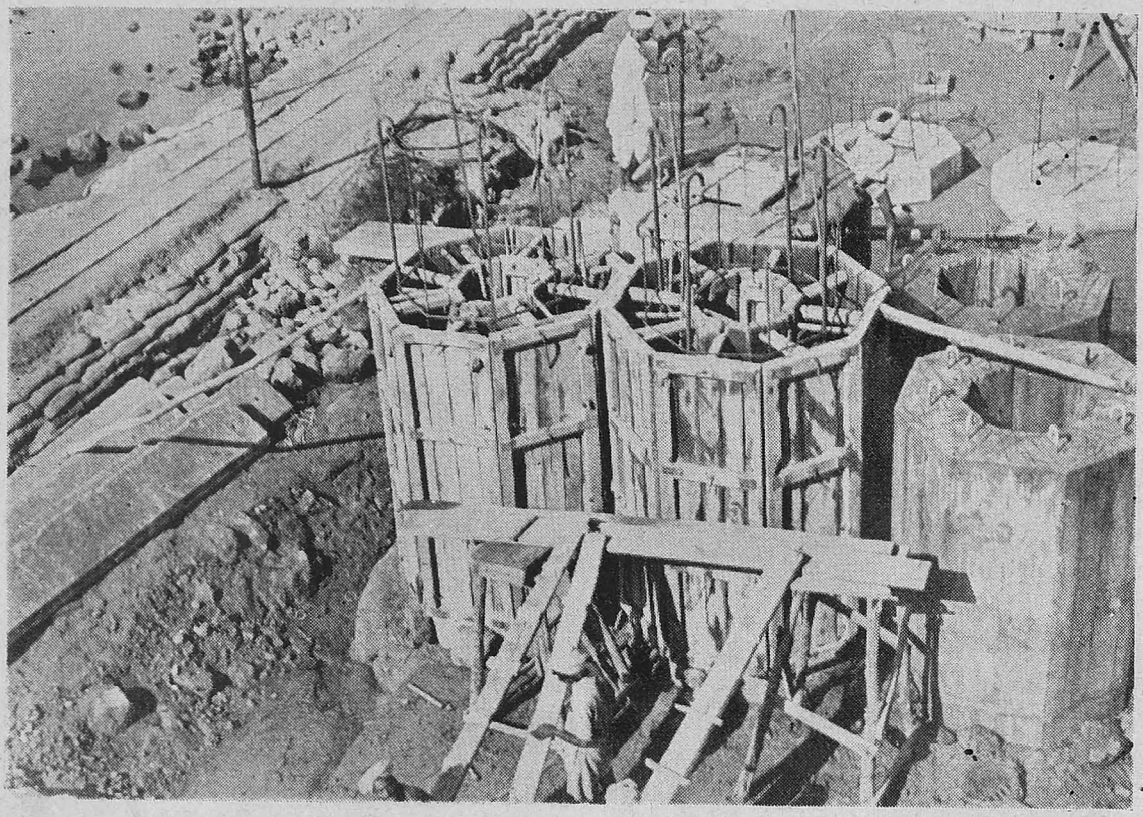
Rear row of wells

1st bund wall

Rear retaining wall line

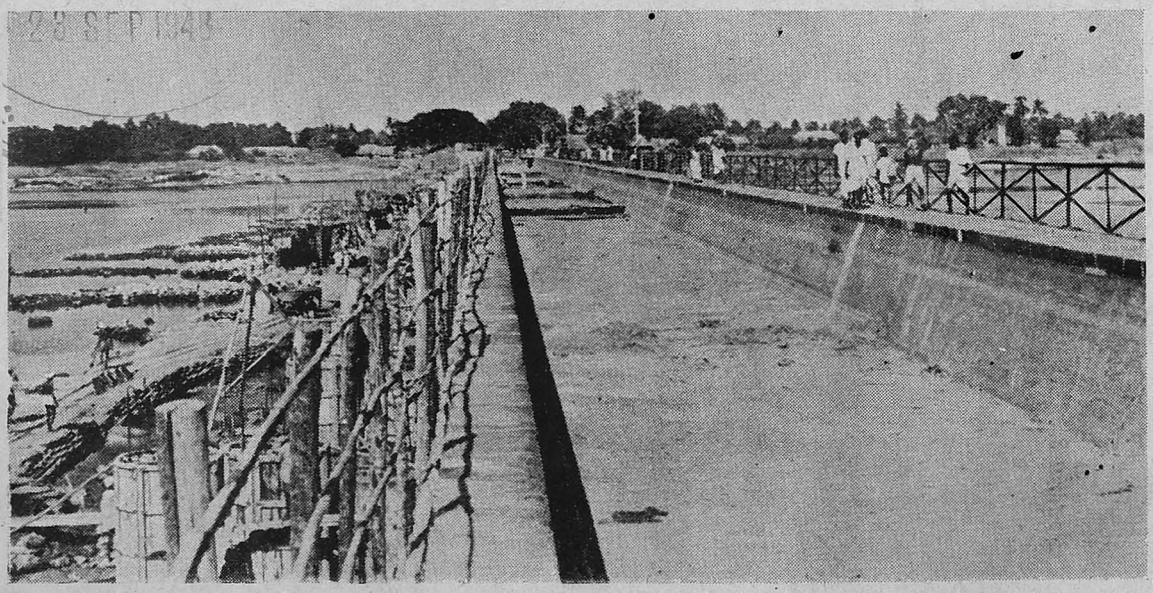
Second bund wall.

Apron packing in progress between 1st & 2nd bund walls



WELL STEININGS IN PIER 17

The photo shows the R.C.C. well steinings cast and moulds fixed in position ready to take concrete, in pier No. 17 from left flank. The three wells on left are 6′ × 5′ 9″ octagonal and the two on right are 6′ 0″ × 6′ 0″ octagonal with 1′ 6″ thick steining 3/4″ dr. bindier rods are projecting above the wells. The cofferdam bund with tram track is seen on the left side.



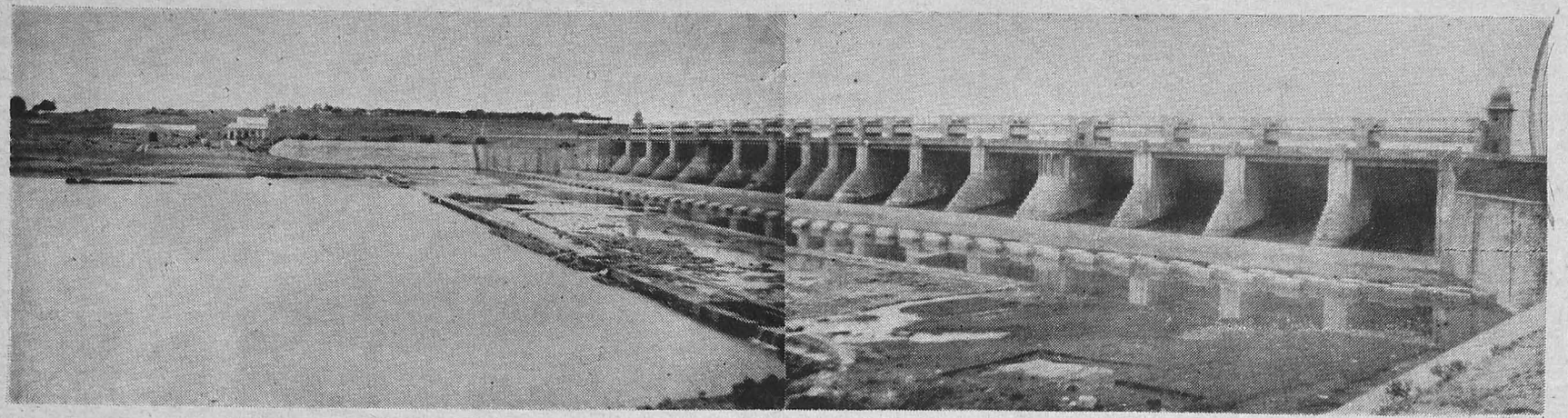
AQUEDUCT EMPTY DURING CLOSURE, BEING PRESSURE GROUTED LOOKING DOWNSTREAM

The photo shows the masonry aqueduct constructed in 1852—completely emptied during closure 15th April to 15th May for pressure grouting cracks and crevices through which leaks and swettings were noticed during the irrigation season. Neat cement slurry and hand grouting machines were used and are very successful.

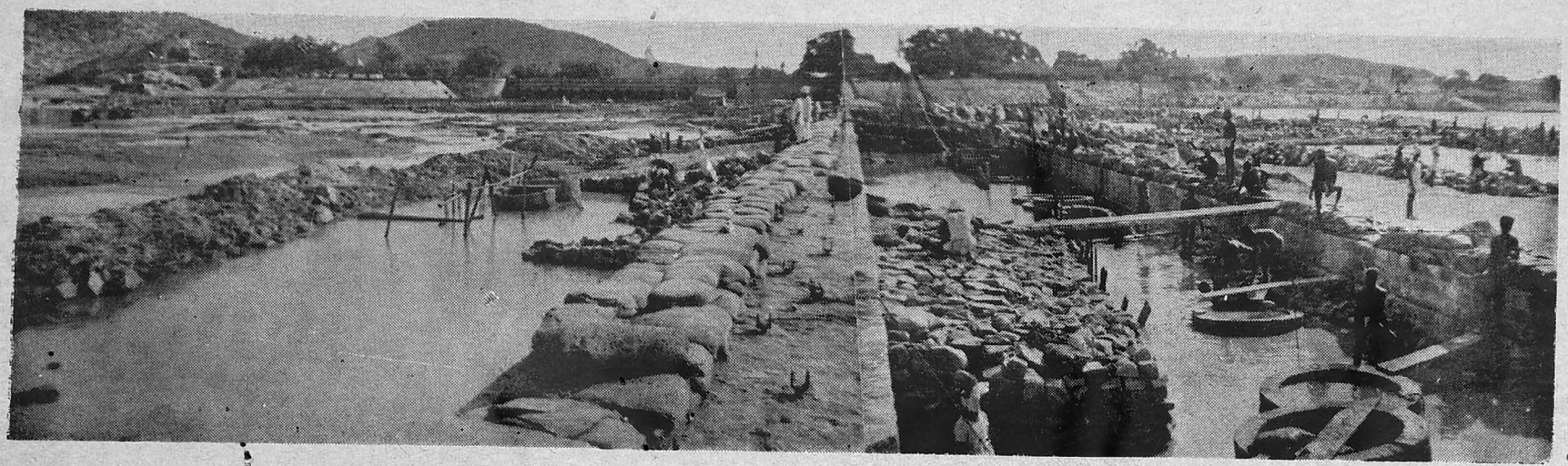
SANGAM ANICUT—29TH SEPTEMBER 1947.

RESTORED PORTION LOOKING FROM NORTH AFTER THE HEAVY FLOOD, DATED 24TH SEPTEMBER 1947, WATER JUST AT CREST LEVEL IN FRONT AND SPILLING OVER A DISCHARGE OF 157,756 CUSECS PASSED OVER WITH 5′ 0″ OVER CREST.

REGULATOR AT POONDI



SANGAM ANICUT—18TH JULY 1947



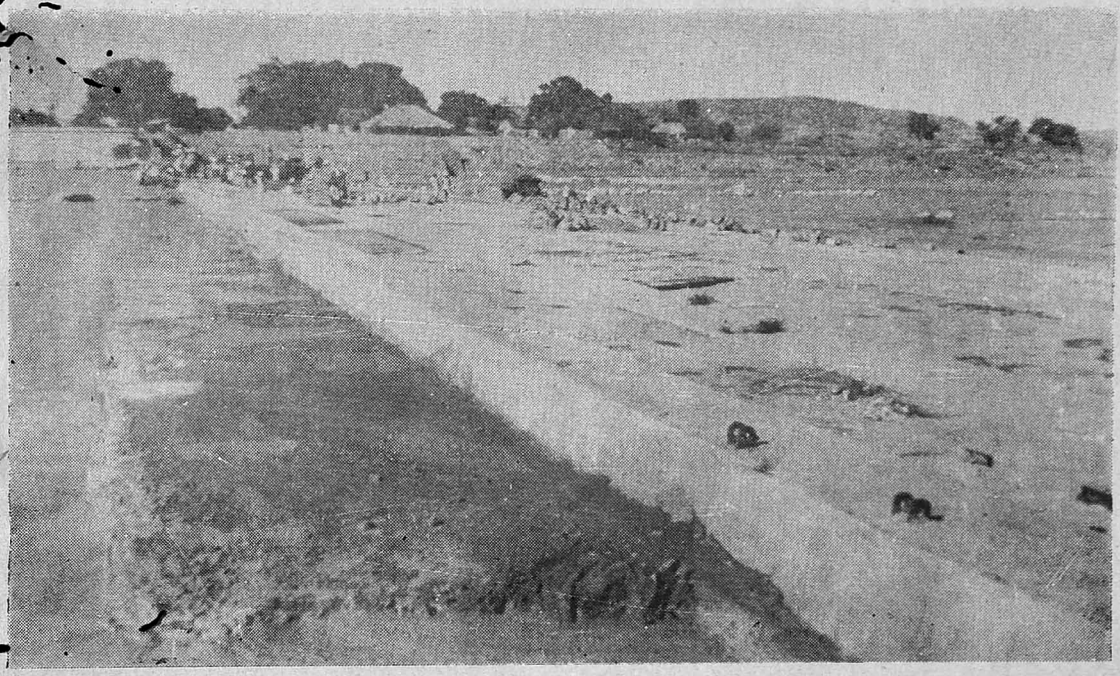
Rear aprons completed

1st bund wall

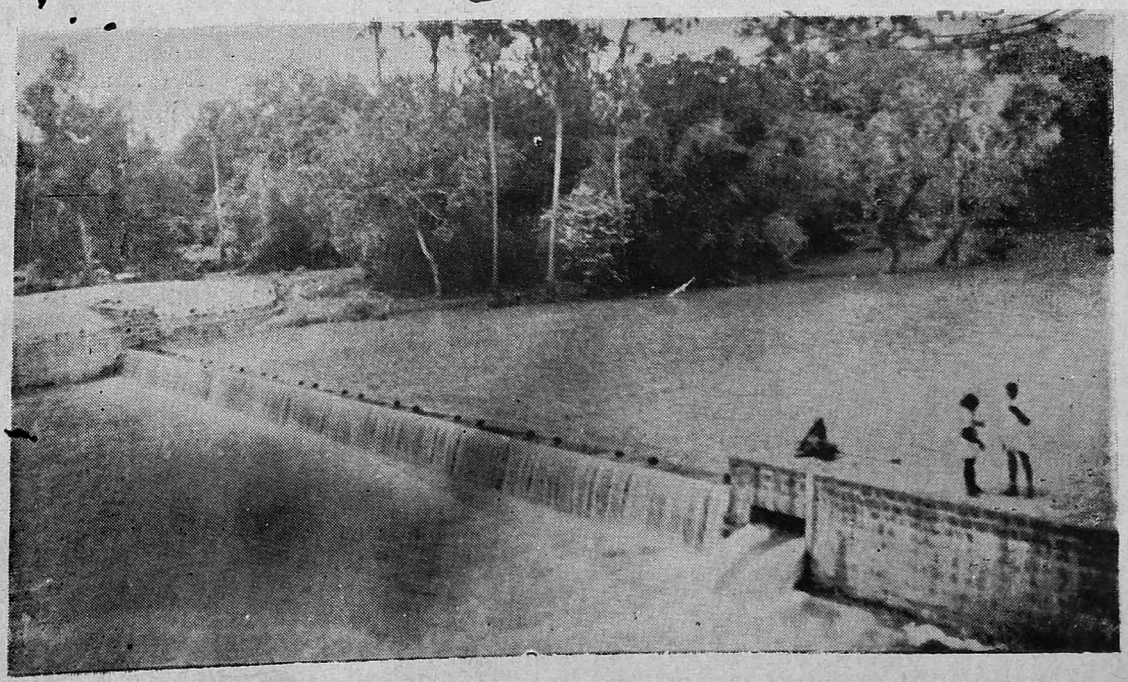
Main body wall

SANGAM ANICUT—29TH SEPTEMBER 1947

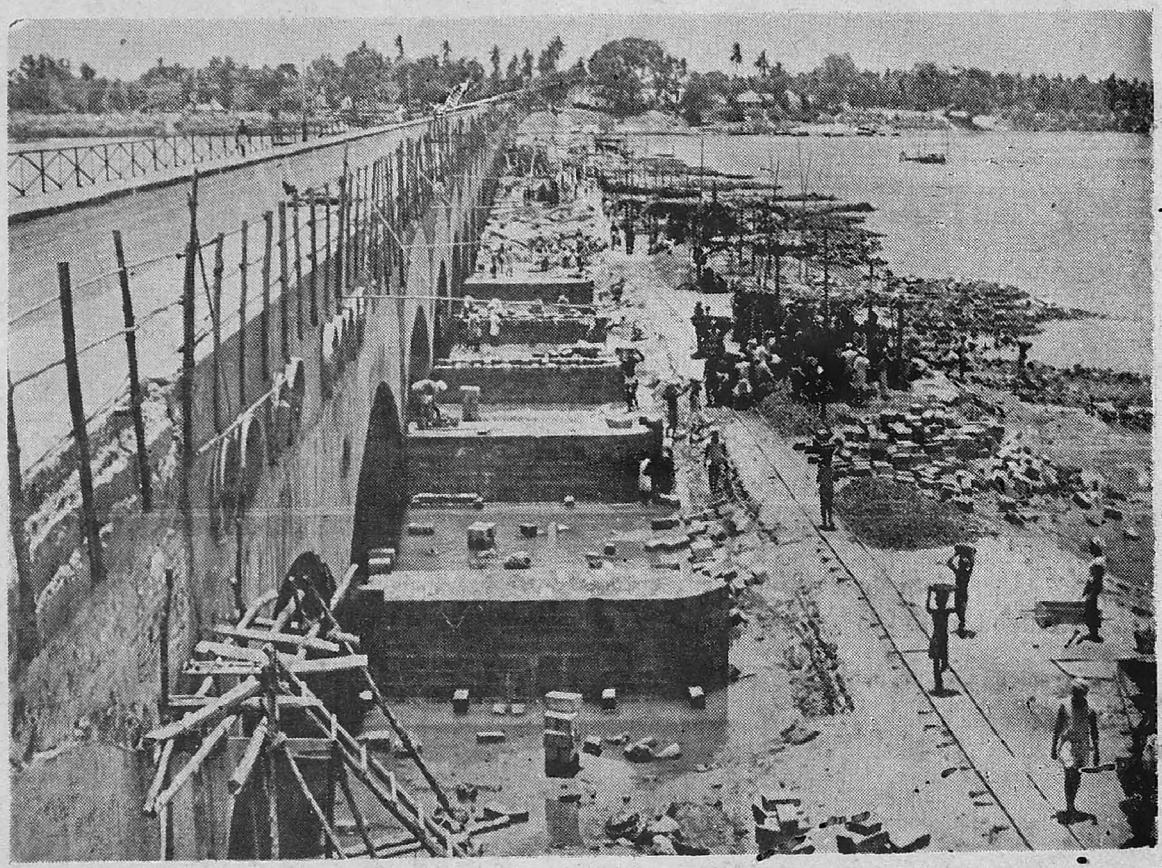
BREACH RESTORATION WORK COMPLETED—VIEW FROM SOUTH END OF RESTORED ANICUT LOOKING NORTH ALONG IT AFTER THE HEAVY FLOOD ON 24TH SEPTEMBER 1947.



Note the front heavy hanging groyne (part above water-level)
A flood of 157,756 cusecs, i.e., 5′ 0″ over crest passed on 24th September 1947



NEW NINJAL MADUVU ANICUT NEAR CHINGLEPUT



PORTION TO EAST OR LEFT OF RECONSTRUCTION AREA VIEWED FROM RECONSTRUCTED ROAD SLAB

In 1944, 4 spans (36—39) collapsed during floods and were reconstructed in R.C.C. in 1945. The nine pipe projections in the side wall of the aqueduct show where the 3 ft. dr. hume pipes took off into the bye-pass arrangement provided on the downstream side to supply irrigation water while reconstruction was in progress. The extension piers at varying heights show the present work in progress on the east side for constructing a now trough and roadway and the cofferdam bund and tram track are seen on the right side.