Cauvery (Kattalai) - Vaigai - Gundar link project
Salient features

Sl. No.	Particulars		
1	Name of the project	Cauvery (Kattalai) - Vaigai - Gundar link project	
2	Type of project (Irrigation or Multipurpose)	Multipurpose	
3	**Location**	Central coastal region of Tamil Nadu	
3.1	River basin		
a)	Name	Cauvery basin, Streams between Cauvery and Vaippar	
b)	Location	Tamil Nadu	
3.2	River / tributary	Cauvery and Gundar rivers	
3.3	State (s)/District (s)/ Taluka (s) in which the following are located:	All the project components are located in Tamil Nadu State.	
a)	Reservoirs (Enroute)	Nil	
b)	Head work	District	Taluk
	Kattalai barrage on Cauvery river (Existing)	Karur	Krishnarayapuram
c)	Command area	District	Taluk
	Enroute command area (448340 ha)	Karur (2942 ha)	Krishnarayapuram Kulithalai
		Tiruchirappalli (2917 ha)	Srirangam
		Pudukkottai (49787 ha)	Gandarvakottai Kulathur Pudukkottai Karambakudi Alangudi Aranthangi Tirumayam
		Sivaganga (91805 ha)	Tirupattur Karaikudi Devakottai Sivaganga Ilayankudi Manamadurai
		Ramanathapuram (211193 ha)	Tiruvadanai Paramakudi Ramanathapuram Mudukulatur Kamuthi Kadaladi
		Virudhunagar (39922 ha)	Tiruchuli Kariapatti Aruppukkottai
		Thoothukudi (49775 ha)	Vilathikulam Ettayapuram

3.4	Name of village near head works	Mayanur	
3.5 (a)	Location of head works	78^0 13' 56'' E	10^0 57' 11''
(b)	Lies in earthquake zone no.	The project sites lie in Seismic Zone-II (Least zone) as per the zoning map of India (IS 1893 – 2002)	
3.6	Project area reference to: (Link canal alignment)		
a)	Survey of India Topo-sheets -Degree Sheets -1:50,000 Scale	58 J 1, 5, 9, 10, 14, 15, 16 58 K 2, 5, 6, 9	
b)	Index plan	Plate: 1.3	
3.7	Access to the project (head works)	Name	Distance from project site
a)	Airport	Tiruchirappalli	60 km
b)	Rail head	Mayanoor	0.2 km
c)	Road head	NH- 81	0.2 km
d)	River port	Nil	
e)	Seaport	Thoothukudi	290 km
4	**Inter State aspects of the project**		
		Interstate aspects are not involved as the link project receives water from the preceding link namely Pennar - Palar - Cauvery link project (of Mahanadai - Gundar link system) by substitution.	
5	**Estimated life of the projects (years)**	100 years	
6	**Irrigation (ha)**	The project will provide annual irrigation to 448340 ha area in the central coastal region in drought	
	(a) Gross command area (GCA)	840041 ha	
	(b) Culturable command area (CCA)	448340 ha	
	(c) Annual irrigation	448340 ha	
	(i) Intensity of irrigation	100%	
	(ii) Districts benefited	Karur, Tiruchirappalli, Pudukkottai, Sivaganga, Ramanathapuram, Virudhunagar and Thoothukudi	
	(d) Cost per hectare of gross area irrigated	Rs 0.985 lakh	
	(e) Cost per hectare of culturable command area	Rs. 1.846 lakh	
	(f) Cost per 1000 cum of water delivered at the (Canal head/outlet)	Rs. 0.3675 lakh	
	(g) Water utilisation (Irrigation)	1931 Mm^3	
7	**Flood control**	No flood control benefits are envisaged	
8	**Navigation**	No navigation is proposed	
9	**Water supply**		
9.1	Domestic		
a)	Names of towns / villages/	All the villages in the proposed command area in 27	

	Industries served	taluks of seven districts.			
b)	Size of population served	28.05 lakh (2050 AD)			
c)	Quantum of water made available (Mm^3)	79			
d)	Quantum of water per capita (litre)	70 for rural /135 for urban			
9.2	Industrial				
(a)	Name(s) {location(s)}	In the Command area.			
(b)	Quantum of water made available (Mm^3)	139			
10	**Hydrology of enroute rivers**				
10.1	Catchments	Cauvery basin up to Kattalai	Streams between Cauvery and Vaigai	Vaigai Basin	Streams between Vaigai and Vaippar
10.1.1	Catchment area classification according to mode of precipitation				
(a)	Rain-fed (km^2)	63694	10040	7741	5409
(b)	Snow-fed (km^2)	Nil			
10.2	Precipitation (mm)	Rainfall (Monsoon)			
(a)	Maximum	5411	1167	2848	932
(b)	Minimum	574	597	604	635
10.3	Annual yield of the basin (Mm^3)				
(a)	Maximum	26371	2074	1395	1099
(b)	Minimum	9644	319	229	328
(c)	Dependable (per cent)				
(i)	At 50% dependability	17126	1096	667	603
(ii)	At 75% dependability	14138	808	459	514
10.4	Water balance				
(i)	At 50% dependability	-9647	-80	-225	-570
(ii)	At 75% dependability	-12635	-410	-445	-659
11.0	**Command**	3 IMD observatories (Tiruchirappalli, Madurai & Tondi) are located in the command area, based on the ET_o data and Normal rainfall (1981-2010) of which the information is furnished.			
		Cropping Season			
		Annual	Kharif (June-October)	Rabi (November-February)	Hot (March-May)
	(a) Normal Rainfall (mm)	856.8	484.2	242.15	130.45
	(b) ETO (mm)	1935.5	1001.6	545.9	630.4
12.0	**Climatic data (Command area)**				
12.1	Name of Station(s) and period of record				
Sl. No.	**Names**	**Period of record**			
		From	To		
1	Tiruchirappalli	1981	2010		

2	Thanjavur	1981	2010
3	Kudumiamalai	1981	2010
4	Adiramapattinam	1981	2010
5	Madurai	1981	2010
6	Tondi	1981	2010
12.2	Data (Normal/Mean values of all stations in command area)		
		Maximum	Minimum
(a)	Air temperature (^{0}C)	39.1	19.9
(b)	Humidity (%)	86	36
(c)	Wind speed (km/hr)	16.1	4.4
(d)	Cloud cover (Oktas)	6.1	2.9
13.0	Proposed utilisation by the project (Mm^3)	**2252**	
(a)	Irrigation	1931	
(b)	Domestic water supply	79	
(c)	Industrial water use	139	
(d)	Transmission losses	103	
13	**Land acquisition**		
13.1	Land and property affected:		
a)	Land affected (ha)		
i)	Gross	4938	
ii)	Culturable	Will be worked out after detailed surveys	
iii)	Forest	107	
iv)	Others (specify) River portion	Will be worked out after detailed surveys	
13.3	Number of houses affected	2395	
	Number of industry/ educational institution affected	22	
14	**Head works**	The existing Kattalai barrage is proposed to be utilised as the head works of the link project. No new dam is proposed for headworks.	
14.1	Head regulator(s)	Offtake from the foreshore of barrage	
(a)	Total length (m)	21.5	
(b)	Length of bay (m)	4.25	
(c)	Sill level (EL-m)	96.5	
(d)	Number of gates	4	
(e)	Type of gates	Vertical lift type fixed wheel service gate	
(f)	Size of gate	4.25 m x 4.70 m	
(g)	Type of hoisting arrangement and its capacity	Rope drum hoist of 8-ton capacity mounted on steel bridge supported on trestles	
15	**Canal system**		
15.1	Main canal	Cauvery (Kattalai) - Vaigai - Gundar link project	
15.1.1	Purpose of canal (Irrigation/power/navigation/diversion/ water supply/ multipurpose)	Multi-purpose	

15.1.2	Type				
	(a) Flow /lift	Gravity canal			
	(b) Lined / Un lined	Lined			
	(c) Type of lining	Cement Concrete 1:2.4 (100 mm to 75 mm)			
15.1.3	Design data				
(a)	Length (km)	256.82			
(b)	Full supply level at head/tail (m)	100.75 / 72.048			
(c)	Full supply depth at head/tail (m)	5.5 / 2.65			
(d)	Bed width at head/ tail (m)	21.50 / 4.5			
(e)	Side slope at head/ tail (H:V)	1.5 H : 1.0 V			
(f)	Bed slope (range)	1 :20000 up to RD 189.80 km and 1:15000 beyond			
(g)	Maximum discharging capacity at head/ tail (cumec)	180.3 / 17.0			
(h)	Total number of canal structures on main canal	464			
(i)	Gross command area (En-route) (ha)	840041			
(j)	Culturable command Area (En-route) (ha)	448340			
15.1.4	Branch canals (s)				
	(a) Number	12			
	(b) Total length (km)	538.1			
	(c) Direct sluices	25			
15.1.5	Distribution system	Canal networking with gravity flow			
15.2	Efficiencies (%)	Total efficiency 76%			
	(i) Conveyance	80			
	(ii) Field application	95			
15.3	**Tunnels along the link canal**	**RD from (km)***	**RD to (km)***	**Length (km)**	**Diameter (m)**
(a)	Tunnel No.1	82.30	86.24	3.94	10.4
(b)	Tunnel No.2	104.10	110.14	6.04	9.5
(c)	Tunnel No.3	148.10	151.73	3.63	9.0
(d)	Tunnel No.4	156.30	158.23	1.93	8.8
			Total	**15.54**	
16	**Cropping pattern:** Taluk wise cropping pattern as considered in the feasibility report has been adopted. The details are given in Chapter-8: Irrigation planning and command area development.				
17	**Power**	No hydro power generation is envisaged in the link proposal.			
18	**Cost of project (lakh) Unit-wise**				
(a)	Unit - I: Head works	2077 lakh			

(b)	Unit - II: Canal and conveyance system	808905 lakh	
(c)	Unit - VI: Command area development	16734 lakh	
	Total cost of the project	827716 lakh	
(d)	Annual cost	102940 lakh	
19	**Benefits / Revenue**		**Value (Rs lakh)**
a)	Agricultural produce (Quintals)		428064
b)	Domestic water supply (Mm^3)	79	1580
c)	Industrial water supply (Mm^3)	139	101470
d)	Any other (i) Pisciculture (ii) Water charges (Irrigation service fee) (iii) Canal plantation		 232 6725 2035
	Total benefits		540106
20	**Benefit cost ratio (BCR) and IRR**		
a)	BC Ratio		5.25
b)	Internal rate of return (IRR)		38.18%