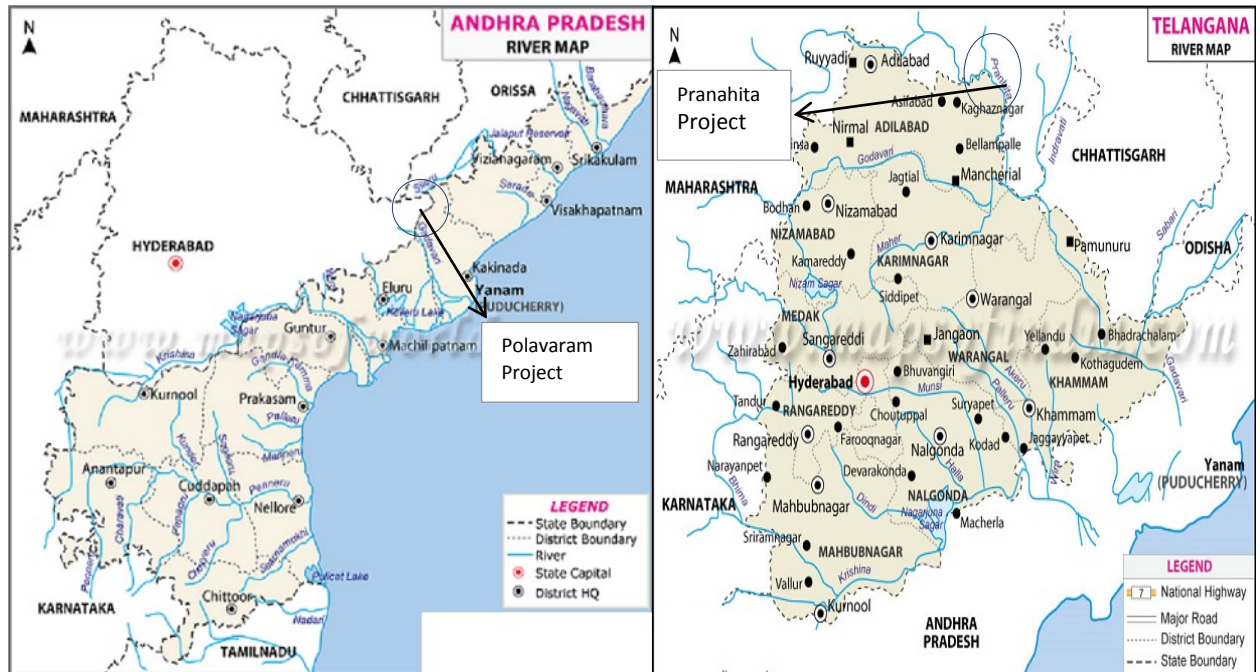


Irrigation Projects – The Double Edged Sword for EPC players of Andhra Pradesh/Telangana States

Background

India, being an agrarian economy, agriculture plays a vital role in the overall economic development of the country. The Indian agricultural sector is largely dependent on irrigation with the water availability during the monsoon season being highly unpredictable and seasonal. This renders the importance of irrigation segment in the country with large number of irrigation projects undertaken at Centre as well as State level. The State Governments are the primary authority for undertaking irrigation projects in the country.

Andhra Pradesh and Telangana State account for a sizeable share (about 12%) of irrigation projects undertaken in the country with the projects located on the banks of Krishna and Godavari; the two major rivers flowing across the State. River topography of major rivers flowing across the States is as follows-



As seen from map above, the rivers share their basin with Madhya Pradesh, Maharashtra, Karnataka, Chhattisgarh, and Odisha.

Godavari faces surplus water while Krishna faces deficit

Godavari and Krishna Deltas

While on one hand, the Godavari delta region is said to have surplus water, the Krishna delta faces water shortfall. Majority of Godavari water remains untapped for economical use and gets drained in the Bay of Bengal. In order to utilise the surplus water of Godavari, there have been proposals to interlink the two rivers which would facilitate the farmers and other industries in the region. In light of said background, a large number of irrigation projects have been undertaken by the State Governments of Telangana and Andhra Pradesh; many of which have been pending execution since more than a decade.

Command Areas

Irrigation projects are classified as Major, Medium and Minor projects depending upon the Cultivable Command Area (CCA).

- (i) Major Irrigation projects have CCA of more than 10,000 hectares
- (ii) Medium Irrigation projects fall with CCA range of more than 2000 hectares upto 10,000 hectares and
- (iii) Minor Irrigation projects have CCA equal to/lower than 2000 hectares.

Jalayagnam- 69 Projects costing Rs.179,329 crore

State Governments Focus on the Irrigation Segment

In the states of Telangana and Andhra Pradesh, a massive irrigation programme named **JALAYAGNAM** was initiated in 2004 wherein a large number of major/medium irrigation projects were launched to resolve the issue of water scarcity in the state. The projects undertaken under the scheme can be taken as proxy of all the ongoing major medium irrigation projects in the two States. A total of 69 Major Medium Irrigation projects worth Rs.179,329 crore are under various stages of execution in the above-mentioned two States, with Andhra Pradesh accounting for 53% of the project value and Telangana State having the balance share.

An aggregate sum of Rs.72,236 crore has been spent by the State Government on the said projects, till March 31, 2014. The expenditure incurred, however, account for only 40% of the total revised cost and thus significant project work is pending execution.

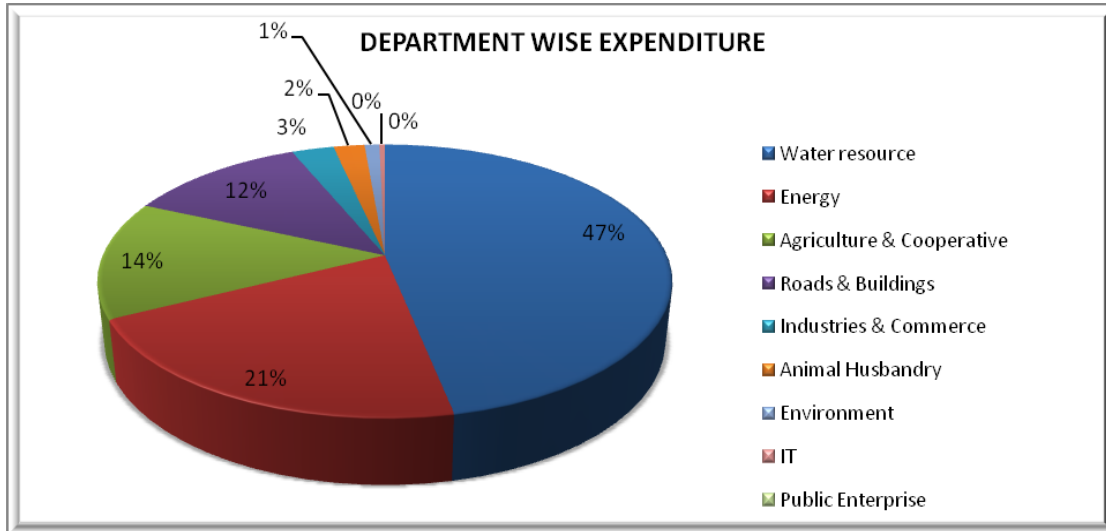
Particulars	Original cost	Revised cost	Cost overrun	Cumulative expenditure as on Mar.31, 2014	% incurred
	Amount (Rs. crore)				%
69 Major Medium Irrigation projects pending execution	110,330	179,329	68,999	72,236	40.28

(Source: compilation from CAG reports)

Expenditure on the irrigation segment has been the largest expenditure by the State Government

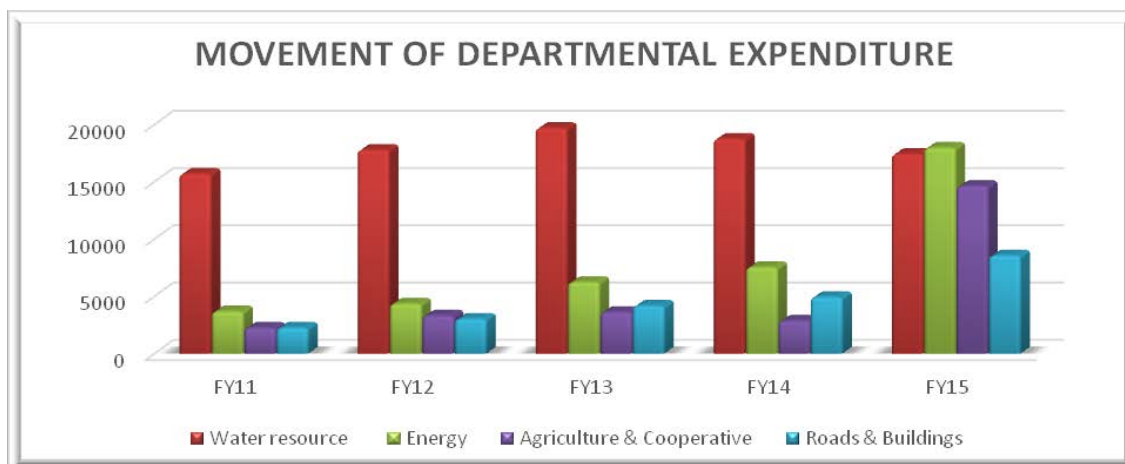
Government Expenditure

The expenditure incurred by the Water Resource departments of Andhra Pradesh and Telangana State (erstwhile Irrigation and Command Area Development Department of composite Andhra Pradesh) also testifies the importance of irrigation projects at State level.



During the period FY11 to FY15 (refers to the period April 01 to March 31), the expenditure of the said department constituted single largest cost element with total sum spent being Rs.89,394 crore which is about 47% of the total expenditure of all Departments taken together. The expenditure by the energy department falls second in the list (21%) followed by agriculture & cooperation (14%).

Irrigation has been the focus of the State Governments; however, the expenditure on the energy segment has witnessed tremendous growth over the last 5 years (from Rs.3,697.0 crore in FY11 to Rs.17,981.0 crore in FY15), as seen below.



Major projects stuck in order book of EPC players for about a decade

Projects - Boon and Bane for EPC Players

The massive expenditure undertaken for development of water resources; particularly through irrigation projects, have provided ample growth opportunities for the companies engaged in Engineering, Procurement and Construction (EPC) segment as the execution of projects undertaken are tendering based. However, the same has worked as a double edged sword. While the tenders awarded have boosted the order book position of the EPC players; slower project execution due to host of factors (primarily State finance) has led to piling up of the orders and blocking of funds deployed in the project, thereby pressurising the working capital position in the past. The same is particularly true with regard to projects of larger value as several smaller projects have witnessed significant work execution. Of total 69 projects mentioned earlier; 29 projects aggregating around Rs.47,616 crore have witnessed more than 70% of cost completion as on March 31, 2014.

7 projects cover ~60% of total cost

The slower work execution in majority of projects has resulted in total cost overrun of about Rs.69,000 crore till March 31, 2014, and the estimates are being further revised by the respective State Governments. Besides, majority of the projects are pending completion since more than a decade. Of the 69 projects, 7 projects cover 60.51% of the total cost and the balance projects constitute less than 3% of the total cost of Rs.179,329 crore. Details of major projects pending execution is as follows-

Project Name	Year of commencement	Original cost	Revised official cost	Share in revised total cost	Cost over run	Expenditure as on Mar.31, 2014	Market estimate revised costs*
		Rs. crore		%	Rs. crore		
PranahithaChevella LIS	2007	17,875	38,500	21.47	20,625	3,770	75,667
Dummugudem N.S. Tail Pond	2008	8,930	19,521	10.89	10,591	547	NA
IndirasagarPolavaram Project	2004	10,287	16,010	8.93	5,723	4,877	36,000
PVN Kanthanpalli LIS	2013	10,409	11,773	6.57	1,364	17	NA
Total		47,502	85,805	47.86	38,303	9,211	

Source: compilation from CAG reports

*based on published news articles

NA – Not available

Of the top three projects pending execution; the first two are located in the state of Telangana and the third one in Andhra Pradesh.

Work order for two projects aggregating approx. Rs.30,000 crore included in order book of several EPC players in the State

EPC Players

The projects have been stuck since almost a decade and have impacted the order book of major EPC players in the said states. As per available data, the EPC contract for the Pranahita-Chevella and Polavaram project valued at approximately 30,000 crore (ie, about 55% of project value) is included in the order book of various Hyderabad-based EPC players. Some of the EPC players which are engaged in execution of the said orders are as follows-

Company Name	
Pranahita Chevella LIS	Polavaram Project
Megha Engineering and Infrastructure Ltd (MEIL)	Transstroy (India) Ltd
IL&FS Engineering & Construction Company Ltd (IL&FS, rated CARE BBB-/CARE A3)	Soma Enterprise Ltd
Sushee Infra P. Ltd (Sushee)	Madhucon Projects Ltd
Transstroy (India) Ltd	Gayatri Projects Ltd(rated CARE BB/CARE A4)
PLR Projects P. Ltd (PLR)	Hindustan Construction Company Ltd
HES Infra P. Ltd (rated CARE BBB+/CARE A3+)	Larsen & Toubro Ltd.
RK Infracorp P. Ltd (rated CARE BBB/CARE A3+)	
Sarala Project Works P. Ltd (rated CARE BBB/CARE A3+)	
Navayuga Engineering Company Pvt. Ltd (rated CARE BBB+/CARE A2)	
SEW Infrastructure Ltd (SEW)	
Sri SCL Infratech Ltd(rated CARE B+/CARE A4)	

Source - CARE Ratings, company websites

The details of the two major projects of each of the State are as follows-

Pranahita-Chevella is the largest irrigation project in the State of Telangana with cost aggregating Rs.38,500 crore.

I. DR. B.R. AMBEDKAR PRANAHITA-CHEVELLA SUJALA SRAVANTHI

- The project is the biggest Lift Irrigation Scheme undertaken by the Composite State of Andhra Pradesh. The project entails providing the following benefits –

Irrigation area (CCA) in lakh hectares	6.64
Drinking Water [Thousand Million Cubic feet (TMC)]	40.00
Industrial Water (TMC)	16.00

- The project cost is whopping Rs.38,500 crore out of which only 10% of cost has been incurred till Pre-State Bifurcation period. The project has been facing issues with regard to –
 - Land availability
 - Environmental clearance
 - Slower disbursement of funds by the erstwhile composite State of Andhra Pradesh and
 - Dispute with State Government of Maharashtra on huge land submergence due to height of the proposed barrage.
- The State Government of Telangana has proposed redesigning of the project with reduction in height of barrage and change in barrage site which has led to amicable settlement with the Govt. of Maharashtra, in 2016. The project redesigning has completely altered the project scope and the project has been renamed as Integrated Kaleshwaram Lift Irrigation Project. The project has now been proposed to be divided into two parts; Pranahita Barrage Lift Irrigation (cost of Rs.4,231 crore) and Kaleshwaram Lift Irrigation Project (cost of Rs.71,436 crore). The Draft Project Report (DPR) for the Integrated project (cost of Rs.75,667 crore) is under preparation.
- Meanwhile, the project work execution for the earlier Pranahita Chevella Project is under process and there has been relatively faster movement of project work at several places. The entire project work is divided into 28 packages for smooth operation and execution. The various packages have been jointly/individually awarded to various EPC players in the country; majority of them based in Telangana/Andhra Pradesh. Projects worth Rs.21,843 crore (ie, about 57% of the total value) pertaining to 15 packages have been awarded in Joint Venture to a large number of EPC players in the country. The details are as follows-

Project name changed to Kaleshwaram Lift irrigation with redesigning in progress and revised cost estimated at Rs.75,667 crore

Package No.	Joint Venture	Contract Value (Rs. crore)
5	MEIL- IL&FS-ABB-ANDRITZ	3,626
8	MEIL-SEW-IL&FS-BHEL	3,271
11	SEW-MEIL-BHEL	2,501
7	IL&FS-MEIL-ABB-AAG	2,119
12	MEIL-SEW-ABB-AAG	1,955
10	HCC-MEIL-BHEL	1,928
4	SUSHEE-PRASAD-NCC-IL&FS	1,675
16	PLR-GVPR-SEW	1,083
17	ITD CEMENTATION (INDIA) LTD-IL&FS	663
14	AMR-IL&FS-KBL-WEG	659
3	HCC-SEW-MEIL	640
15	SPML-SEW-AMR	586
28	MEIL-ZVS-PVSRSN-ITT	487
19	GAMMON-SEW	436
2	IL&FS-NCC	215
	Total	21,843

Source: compilation from CAG report, CARE Ratings and company websites

BHEL – Bharat Heavy Electricals Ltd., GVPR – GVPR Engineers Ltd., KBL – Kirloskar Brothers Ltd., SPML – SPML Infra Ltd., AMR – AMR Constructions Ltd., PVSRSN – PVSRSN Enterprise Ltd

- Apart from work order mentioned above, the orders have been sub-contracted to various EPC players and thus, there is a multiplication effect of the orders. Several other players (apart from the ones enlisted above) rated by CARE have order aggregating about Rs.14,600 crore. Thus, the significant slowdown in the project work witnessed till FY14 had adversely impacted the business of the contractors involved. Nevertheless, there has been momentum in the project since last two fiscal years with the work order movement visible from the order book of the companies rated by CARE. For instance, Hyderabad-based EPC player, Navayuga Engineering Company Ltd. had orders aggregating Rs.3,163.0 crore from the said irrigation project as on October 2015 and there has been execution of work order aggregating approximately Rs.650 crore in last 2-year timeframe vis-à-vis almost negligible work movement on the project observed till FY14.

Polavaram Project – the largest irrigation project in State of Andhra Pradesh has been declared as National Project.

II. Indirasagar Polavaram Project

- The Indirasagar Polavaram Project is a multi-purpose project located on the river Godavari in the State of Andhra Pradesh. The project envisages providing following benefit –

Irrigation area (CCA) in lakh hectares	2.91
Water Supply (TMC)	23.44
Hydel Power Generation (MW)	960

- The project is a part of National River Linking project and proposes to link the Krishna-Godavari rivers. The project is of immense importance from economical perspective and has been declared as National Project by the Central Government in May 2014.

Salient details of the National Project is as follows-

- The scheme of the National projects was approved by the Union Cabinet in its meeting held on February 07, 2008, and under the scheme, 90% grant assistance of the eligible project cost would be provided by the Government of India. The Polavaram project was accorded status of National project after the A.P. Reorganization Act was passed.
- The project has been facing huge cost escalation due to substantial delay in project execution on account of various reasons; major ones being project redesigning, rehabilitation & resettlement expenses, input price escalation, non-availability of land and absence of forest clearance.
- The State Government of Andhra Pradesh has estimated revision in the project cost to Rs.36,000 crore (cost overrun of about Rs.20,000 crore) which is yet to be vetted and approved. Total expenditure incurred till September 30, 2015, was approximately Rs.7,308 crore. Out of same, about 66% of the cost has been incurred over 10-year period till March 2014 and almost 34% in one and half year period during 2014 to September 2015, ie, post State Bifurcation era.
- The EPC contract for the project has been awarded to Hyderabad based EPC player, Transstroy India Ltd. with work order aggregating Rs.7125 crore (ie, almost 44% of approved project cost of Rs.16,010 crore) and pending work-in hand at more than 85% of work order, thereby reflecting the slower movement of work. The other EPC players involved in execution of work order for the project include Soma Enterprise Ltd., Madhucon Projects Ltd., Gayatri Projects Ltd, Hindustan Construction Company Ltd. (HCC), Larsen & Toubro Ltd.

Significant project progress witnessed post State Bifurcation

Projects Movement Post State Bifurcation/Current Status

- The composite State of Andhra Pradesh was bifurcated into State of Telangana and Andhra Pradesh w.e.f June 02, 2014. Post State bifurcation, the Polavaram project forms part of Andhra Pradesh and Pranahita Chevella part of Telangana State.
- The Polavaram project was accorded status of National project. Central Government has formed Polavaram Project Authority for execution of work and would also undertake entire funding and obtaining requisite clearances for the project. Consequently, the project has gathered momentum with a sum of approximately Rs.2,400 crore spent over the last one and half year period ended September 2015. The State Government has received reimbursement of Rs.345.0 crore from the Centre for the project work executed. Additional work orders have been awarded with work order of Rs.422.0 crore given to L&T Geoststructure Bauer JV and HCC.
- The Pranahita Chevella project has also picked up pace with inter-state dispute with Maharashtra getting resolved, re-designing of a portion of the project under process and funds disbursed for project execution. As per some of the EPC players involved in the project execution; few packages of the project is being executed at a faster pace as there has been flow of funds from Government exchequer for the works. Furthermore, work on packages at the tail end is witnessing faster execution (viz, Package 16) with the requisite clearances and approvals in place.

Movement of long stuck projects in order book of EPC players expected to have significant bearing on the credit profile

Road Ahead

The Government of Andhra Pradesh has budgeted an amount of Rs.6,647.6 crore as planned expenditure for 2016-17 pertaining to the major medium irrigation projects in the State (with about 51% expenditure allocated towards the Polavaram Project). Similarly, Government of Telangana State, in the budget for 2016-17, has budgeted an amount of Rs.25,000 crore for the major medium irrigation sector with Rs.6,971 crore proposed for the Integrated Kaleshwaram LIS Project.

With both the major projects witnessing some momentum, the orders stuck in the order book of the construction players in the States have started generating some revenue for the companies. The same is visible from the order book movement of CARE rated clients. However, apart from these two projects, the order book of the construction companies in the State is filled with the other irrigation projects as well and about 60% of the project value remains to be executed. The State Governments are taking the major projects on fast track mode and have advised contractors to work three shifts on the projects with timeline for

completion of majority projects stipulated as 2018. The projects as and when executed would drive the revenue growth of the EPC players and ease the working capital pressure being faced. This in turn is expected to have a significant impact on the credit profile of the EPC players.

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