

Jiwaji University  
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EarthScience

Cuddapah Supergroup

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# Introduction

- Cuddapah basin covers an area of 44000sq km
- Runs for a length of about 450km along the arcuate eastern margin with a width of 150km
- Crescent shaped- convex towards the west and concave towards the east
- The basin is divided into two halves
  1. The undeformed western half – RUDRAVARAM LINE
  2. THE NALLAMALAI thrust fold belt

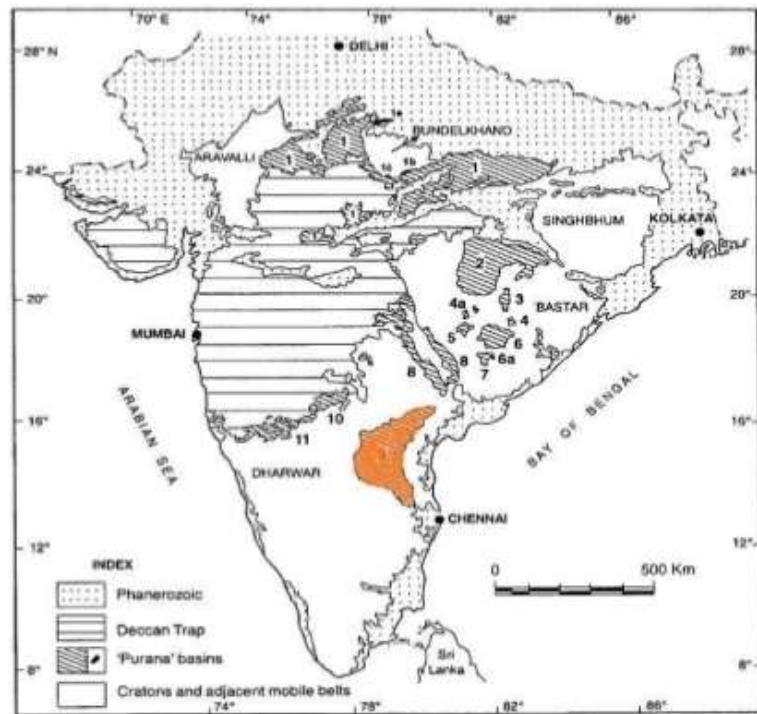
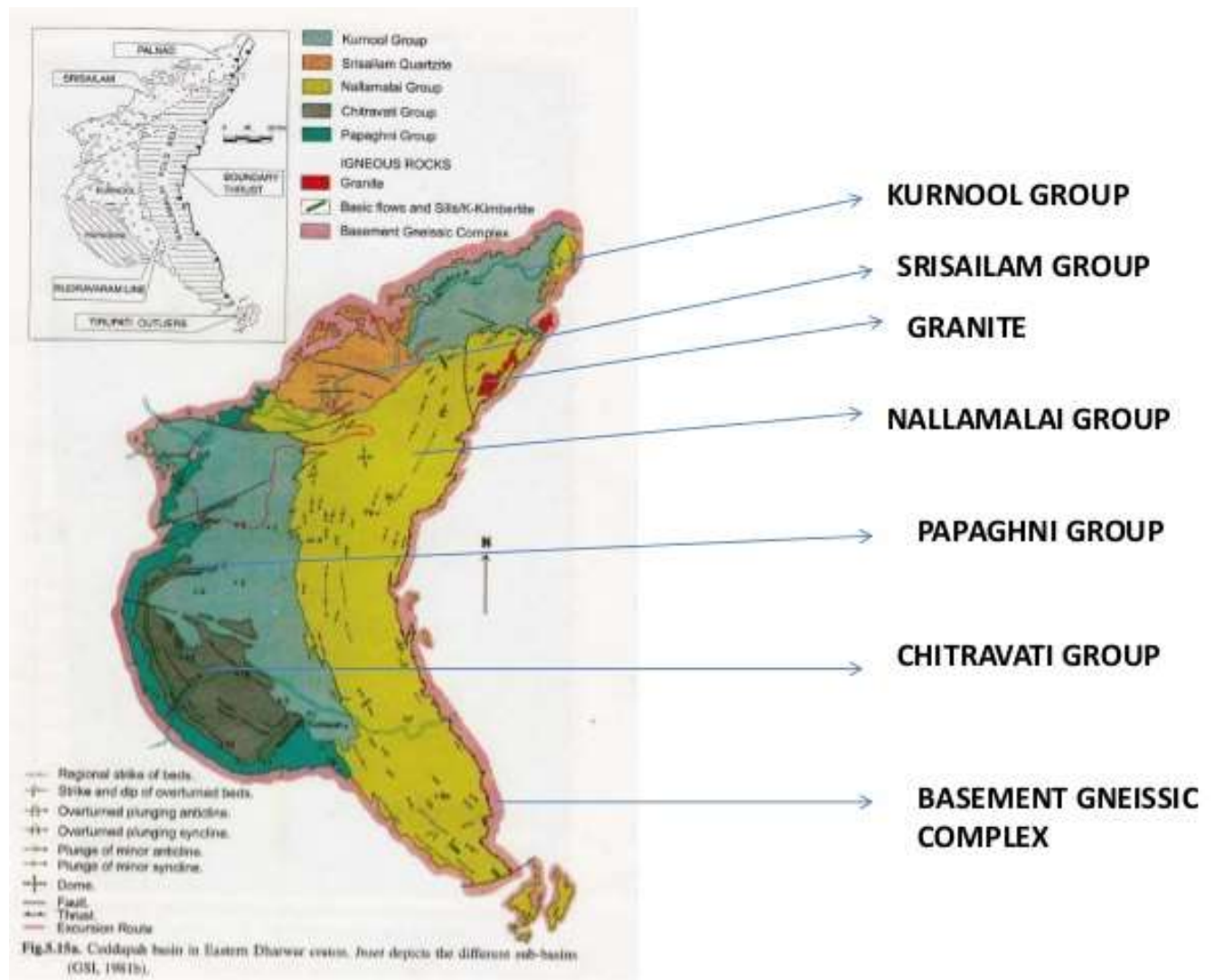


Fig.5.1. Purana basins of Peninsular India within different cratons (after Kale, 1991). 1 -Vindhyan, 1a - Gwalior, 1b - Bijawar & 1c - Sonrai basins, 2 - Chhattisgarh basin, 3 - Khariar basin, 4 - Ampani basin, 4a - Keskal and Singanpur outliers. 5- Abujhmar basin, 6 - Indravati basin, 6a - Chedrapal outlier, 7 - Sabari basin, 8 - Pranhita-Godavari basin, 9 - Cuddapah basin, 10 - Bhima basin, 11 - Kaladgi basin.



<b>KURNOOL GROUP</b> <i>500+ m</i>	Nandyal Shale	
	Koilkuntala Limestone	
	Paniam Quartzite	
	Owk Shale	
	Narji Limestone	
	Banganapalli Quartzite	
----- Unconformity -----		
	Srisailam Formation	Pebbly grit, quartzite, heterolithic shale-sandstone
- x - x - x - tectonic contact - x - x - x -		
<b>NALLAMALAI GROUP</b> <i>~1200 m</i>	Cumbum Formation (≈ Pullampet Shale)	Shale, dolomitic limestone, quartzite
	Bairenkonda Quartzite (≈ Nagari Quartzite)	Pebbly grit, quartzite, heterolithic shale-sandstone
- x - x - x - tectonic contact - x - x - x -		
<b>CUDDAPAH SUPERGROUP</b>	Gandikota Quartzite	quartzite, pebble beds
	Tadpatri Formation	Shale, ash fall tuffs, quartzite, stromatolitic dolomite with mafic flows, sills and dykes
	Pulivendla Quartzite	Conglomerate and quartzite
----- Unconformity -----		
<b>PAPAGHNI GROUP</b> <i>2110 m</i>	Vempalle Formation	Stromatolitic dolomite, shale, basic flows and intrusive
	Gulcheru Quartzite	Conglomerate, feldspathic sandstone and quartzite
----- Unconformity -----		
<b>PENINSULAR GNEISS</b>		

# The Cuddapah supergroup

- The lithostratigraphy of cuddapah basin comprises of

Kurnool group

.....Unconformity.....

Srisailam quartzite

.....Unconformity.....

Nallamalai group

.....Angular unconformity.....

Chitravati Group

..... Disconformity.....

Papaghani group

.....unconformity.....

Crystalline basement of Dharwar craton

## THE PAPAGHNI GROUP

- . Rest with unconformity on granitic basement with profound angular unconformity over greenstone belts of EDC
- . It consists of lower arenaceous sequence , an upper carbonate sequence topped by basic volcanics and sills.

## • THE CHITRAVATI GROUP

- The group disconformably overlies the papaghni group with a basal conglomerate marking the hiatus and consists of lower pulivendla quartzite and upper tadpatri formation.

- THE NALLAMALAI GROUP
- The group overlies the chitravati group
- It is deformed and feebly metamorphosed shali-siltstone-quartzite-dolomite sequence of the nallamalai fold belt

- Srisailam quartzite
- the srisailam quartzite overlies the papaghani and nallamalai groups with a profound
- The quartzite is horizontally bedded
- It comprises glauconite bearing ferruginous quartzite.
- Minor shale intercalation are found in the quartzites.

# Economic importance

- Uranium found in vempalle formation of papaghani group , host rock is phosphatic dolomite.
- diamonds found as placer deposits in Benganapalle quartzite of Kurnool group.
- Limestones and dolomites
- Ornamental stones like jasper , chert etc.