



KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA

Name : Dr. K. Ram Reddy
 Designation : Asst. Prof. of History
 Year of Award of PhD. : 2022
 Name of the University : Osmania University
 Year of entering into Govt. Service : 2016.

S. No.	Details of copies of Certificates	
1	Copy of Ph.D Certificate	copy submitted
2	Press note	"
3	Research work dates of seminars and Pre-Ph.D Date of joining in this college	on 11. 2019. copy submitted.
4	Details of Ph.D Admission-part time or full time	Part time.
5	Copies of RDC Approval letters of Ph.D	copy submitted
6	Name of guide/supervisors with mobile number, email id	Dr. G. Anjiah O.U, Hud 96529 73 499. anjiah.gorla@ gmail.com
7	Copies of guide allotment letter	
8	No. of increments sanctioned for Ph.D.	03
9	Published Research article-copies.	02
10	Original Ph.D Thesis.- Book.	available in the office. Rule Submitted.


PRINCIPAL
 KAKATIYA GOVT COLLEGE
 Hanamkonda.


 Dr. K. Ram Reddy
 Asst. Prof. of History
 KGC, Hanamkonda

OU 897339

Osmania University



Faculty of Social Sciences

This is to certify that N Ram Reddy
son / daughter of Ramnarayana Reddy
having pursued a course of study prescribed by this University
and having passed the requirements by Examination and by
thesis has been admitted to the Degree of

Doctor Of Philosophy

in the Subject of History

The title of the Thesis is :

Irrigation Works in Medieval Andhradesa (1000 - 1687 CE)

The candidate has been declared qualified for the award of the
Degree of Ph.D. on 03 Aug 2022

Given under the seal of the University



CN082280584

Hyderabad, T.S.

Dated Shravana 14, 1944
August C, 2022



Ramish
Vice-Chancellor



**CONFIDENTIAL SECTION
EXAMINATION BRANCH
NO. 622/Ph.D/Exams/2022**

**OSMANIA UNIVERSITY
HYDERABAD-500 007,T.S.
Dated: 03 Aug, 2022**

PRESS NOTE

The following candidates who had presented the Thesis on the subject mentioned against each for the degree of Ph.D are declared qualified for the award of Degree of Doctor of Philosophy (Ph.D.) of Osmania University, Hyderabad.

Ph.D.

S.N	Reference No.	Name of the Candidate/ Father Name	Subject	Thesis Title	Supervisor/ Regn. Date
1	PHD43206	Ms. Sunaina Das D/o. Chandra Mohan Das	Commerce	A Study on Perceptions of Bank Managers in Select Public and Private Sector Banks on Mid Career	Dr. V Hephzibah (Retd.) Dept. of Commerce, O.U., Hyd. (29/01/2009)
2	PHD43207	Mr. K Ram Reddy S/o. Ramnarsimha Reddy	History	Irrigation Works in Medieval Andhradesa (1000 - 1687 CE)	Dr. G Anjaiah Assoc. Professor, Dept. of History, O. U., Hyd. (10/03/2017)
3	PHD43208	Mr. Dananjaya S/o. Kashappa	History	Administrative System of Samasthanas under Nizam's Dominion with Special Reference to the Mahboobnagar District (1911-1948 A.D.)	Dr. N Vidyaranya Swamy Dept. of History, O.U., Hyd. (15/03/2011)
4	PHD43209	Ms. K Sushma D/o. K Shyam Rao	Economics	Impact of Micro Finance on Living Conditions of Women - A Case Study of Mahabubnagar District in Telangana State	Dr. M Ramulu Assoc. Professor, Dept. of Economics, O.U., Hyd. (17/03/2011)
5	PHD43210	Mr. Ravi Kumar N S/o. Bichanna N	Law	A Critical Study of Law Relating to Corporate Social Responsibility in India	Dr. N Venkateshwarlu Assoc. Professor, Dept. of Law, O.U., Hyd. (07/01/2013)
6	PHD43211	Ms. Poornavathi Boya D/o. Jagannadham	Economics	Performance of Self Employment Programs in Telangana State	Dr. E Purushotham Assoc. Professor, Dept. of Economics, Nizam College, Hyd. (11/03/2013)
7	PHD43212	Mr. K Kameswara Rao S/o. Sree Rama Murthy	Law	Constitutional Perspectives Relating to Social Security of Labour in India	Prof. K Panth Naik Dept. of Law, O.U., Hyd. (13/03/2017)
8	PHD43213	Mr. B Ramesh S/o. Holi	History	Exports and Imports during The Qutb Shahi Period [1518-1687] A Historical Study	Dr. Indira P Dept. of History, O.U., Hyd. (12/06/2017)

CP. Varadham
3/8/22
Addl. Controller of Examinations
(Confidential)

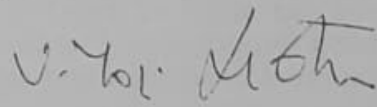
the Research Supervisor and the Departmental Research Committee (DRC) for its review. The half-yearly progress report should cover, among other aspects such as the review of literature, data collected, techniques developed, progress in research, discussion of the work done including any findings, etc.

If a candidate fails to submit two consecutive half-yearly progress reports in time and/or if the progress of the candidate is not satisfactory for two half-year periods, the Departmental Research Committee shall recommend to the Dean of the faculty for the cancellation of his/her registration in consultation with the concerned Research Supervisor. When the scholar is taking leave for doing Ph.D. he/she should report to the Supervisor and concerned Head of the Department about the same. The Head of the Department concerned should in turn forward the joining report to the Dean.

d) Extension of Registration:

The duration of the Ph.D. course is four (4) years for Full time Ph.D., five (5) years for Part-time Ph.D. However the candidate can seek extension of his/her registration as Ph.D. scholar, one year at a time, (a maximum of two (2) such extensions for a full-time and one (1) such extension for a part time scholar) provided that he/she has been continuously engaged in active research, the progress of the research work in the previous years has been satisfactory as certified by the supervisor(s), and that he/she has no dues in the library/ department / college / hostel as certified by the concerned authority. The Candidates should apply for extension at least two months before the expiry of the duration of the Ph.D. Programme provided that he/she has been continuously engaged in active research, the progress of the research work in the previous years has been satisfactory as certified by the supervisor(s), and that he/she has no dues in the library/ department / college / hostel as certified by the concerned authority.

Candidates admitted shall abide by the new Ph.D. Rules and Regulations – 2013-2014 (amended on 4-07-2015). They are advised to purchase and read the booklet of new Regulations from Osmania University Press. The candidates are also advised to retain a copy of these orders, as well as the joining report until submission of thesis.


DEAN DEAN
FACULTY OF SOCIAL SCIENCES
OSMANIA UNIVERSITY
HYDERABAD-500 007. T.S.

To
The Candidate concerned

Copy to:

1. The Supervisor concerned
2. The Head/ CBoS of the Department Concern, OU
3. The Principal, University College of Arts and Social Sciences, OU.
4. The Deputy Registrar (Acad), OU
5. The Addl. Controller of Examinations, OU
6. The Librarian, O U Library
7. The Chief Warden, Hostels and Messes, OU



OFFICE OF THE DEAN
FACULTY OF SOCIAL SCIENCES
UNIVERSITY COLLEGE OF ARTS & SOCIAL SCIENCES
OSMANIA UNIVERSITY, HYDERABAD 500 007

Prof. V.Yoga Jyotsna
M.A., M.Phil., Ph.D.
Department of Political Science
Dean, Faculty of Social Sciences

Tel: 27682315/27096185
Mobile No : 9849267403
Email id : dean.ssou@gmail.com

No. 66/DSS/Ph.D. 2013-2014 Batch/2016

Date: 06.3.2017

ORDERS

Sub: - Admission to Ph.D. - Faculty of Social Sciences- 2013-14 Batch/2016 -Reg.

Ref: - No.300/F/Acad-III/2017,dated.20.2.2017 from the Deputy Registrar
(Acad) O.U.

On the recommendation of the Admission Committee and the approval of the University communicated through the letter cited above under reference, the candidates mentioned in the enclosed list are provisionally granted admission to Ph.D. Course 2013-14 batch. The approved topic of research and the name of the Supervisor to whom the candidates are allotted are mentioned against the candidate's name.

a) Payment of Fee & Submission of Joining Report:

The full time research scholars have to pay a fee of Rs. 1000/- per year for 4 years and part time research scholars have to pay fee of Rs. 2000/- for 5 years. The fee is to be paid through Demand Draft in favour of the *Principal, University College of Arts & Social Sciences*, in the State Bank of Hyderabad, Osmania University Branch and submit the same in the Office of the Dean, Faculty of Social Sciences along with the Joining Report signed by the Supervisor, Chairperson, Board of Studies and Head of the Department concerned and also submit the Transfer Certificate, Migration Certificate in Original (if necessary) and Employer's Permission letter in case of part time scholars, on or before 31st March 2017.

b) Ph.D. Course work, Pre-Ph.D. Examination & Seminar Presentation:

The candidates who do not have M.Phil degree must compulsorily do one semester Ph.D. Course work that comprises of two theory papers and take Pre-Ph.D. Examination conducted by the University with English as the medium of examination. The candidate who does not pass the Pre-Ph.D. test within TWO CONSECUTIVE CHANCES will lose his/her registration. The candidates should make seminar presentations as required; publish research article(s) to be eligible for the submission of Ph.D. thesis. The candidates with M.Phil degree has to apply for Pre-Ph.D. exemption in Office of the Dean.

c) Progress Report:

After the completion of the course work and the Pre-Ph.D. examination, every candidate shall submit half-yearly progress report regularly to the Dean forwarded by

P.T.O.

**OFFICE OF THE DEAN
FACULTY OF SOCIAL SCIENCES
OSMANIA UNIVERSITY**

SUBJECT :HISOTRY

Ph.D. Admn. Order No. NO.DSS/66/Ph.D-/OU/17 Date: 06-03-2017

Sl. No.	Name of the applicant / Father's Name & Permanent Address	M / F	CATE-GORY	Full Time/ Part Time	Supervisor
1.	A. Sreenu / Laxmaiah H.No. 3-90, Kotha Bazar Vill: Kompally, Man: Anumula Nalgonda – 508 377.	M	SC	FT	Prof. G. Sudarshan Reddy
2	K. Veeraswamy / K. Lingaiah H.No. 4-57 Vill: Bakkamantulagudem Post: Choutapally, Man: Mattampally Nalgonda – 508 204.	M	BC-D	PT	Dr. B. Lavanya
3.	GugulothuKoteswar Rao / Pandu H.No. 3-87,Vill: MeetyaThanda Man: Kodad, Post: Vailasingavaram Nalgonda – 508 206.	M	ST	FT	Dr. Indira
4.	N. Mallesham / N. Papaiah Vill: IndrapalaNagaram Post: Valigonda Nalgonda – 508 112.	M	SC	PT	Dr. G. Anjaiah
5.	Shiva Prasad, K. / VenkataSwamy H.No. 17-144 Vill: Srinagar Colony Post: Nagarkurnool Mahabubnagar – 509 209.	M	SC	PT	Prof. G. Sudarshan Reddy
6.	KuncharapuRamreddy / Ramnarsimha Reddy H.No. 35-6-429, Viveknagar Colony, 100 Ft. Road, Gopalpur Hanamkonda Warangal – 506 015.	M	OC	PT	Dr. G. Anjaiah
7.	EswarKurva / KukkannaKurva Vill: Maddur Man: Manopadu Mahabubnagar – 509 128.	M	BC-B	FT	Dr. B. Lavanya
8.	Shaik Syedmiya / Shaik Shahussain H.No. 3-84/1 Vill: Kasthala Man: Chandur Nalgonda – 508 255.	M	BC-E	FT	Dr. G. Anjaiah



DEPARTMENT OF HISTORY
University College of Arts & Social Sciences
Osmania University,
Hyderabad – 500 007, INDIA

Date: 14-08-20'9.

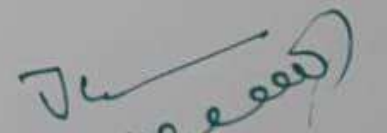
PRESENTATION OF SEMINAR FOR Ph.D

This is to certify that Mr. Kuncharapu Ramreddy S/o Ramnarsimha Reddy, Ph.D. Research Scholar is working on the topic on **“Irrigation Works in Medieval Andhradesa (1000 – 1687 CE)”**, under the Supervision of Dr.G.Anjaiah, Department of History, Osmania University, related to his research work in the Department of HISTORY, Osmania University, Hyderabad-7. He has given his First Seminar on **“Research Design”** on 14--08-2019 at 2.00 p.m.

The presentation by the scholar was well-received and satisfactorily.


Chairman

Board of Studies in History
Chairman, Board of Studies
Department of History
Osmania University, Hyderabad-7


Head
HEAD
Department of History
Osmania University
Hyderabad, Telangana State

Copy to:

1. The Dean, Faculty of Social Sciences, Osmania University, Hyderabad-7.
2. The Principal, University College of Arts & Social Sciences, O.U. Hyderabad-7.



DEPARTMENT OF HISTORY
University College of Arts & Social Sciences
Osmania University,
Hyderabad – 500 007, INDIA


Date: 19-11-2020.

PRESENTATION OF SEMINAR FOR Ph.D

This is to certify that Mr. Kuncharapu Ramreddy S/o Ramnarsimha Reddy, Ph.D. Research Scholar is working on the topic on “**Irrigation Works in Medieval Andhradesa (1000 – 1687 CE)**”, under the Supervision of Dr.G.Anjaiah, Department of History, Osmania University, related to his research work in the Department of HISTORY, Osmania University, Hyderabad-7. He has given his Second Seminar on “**Progress of Research**” on 19-11-2020 at 2.00 p.m.

The presentation was well-received and questions were answered by the scholar was satisfactorily.


Chairman
Board of Studies in History
Chairman, Board of Studies
Department of History
Osmania University, Hyderabad-7


Head
Department of History
HEAD
Department of History
Osmania University
Hyderabad, Telangana State

Copy to:

1. The Dean, Faculty of Social Sciences, Osmania University, Hyderabad-7.
2. The Principal, University College of Arts & Social Sciences, O.U. Hyderabad-7.



DEPARTMENT OF HISTORY
University College of Arts & Social Sciences
Osmania University,
Hyderabad – 500 007, INDIA

Date: 27-1-2022

PRE – SUBMISSION SEMINAR OF Ph.D.

This is to certify that **Mr. Kuncharapu Ramreddy, S/o Ramnarsimha Reddy**, Ph.D. Research Scholar is working on the topic entitled - "**Irrigation Works in Medieval Andhradesa (1000 – 1687 CE)**" under the Supervision of **Dr. G. Anjaiah**, Department of History, Osmania University. He has given "**Pre-Submission Seminar**" on **27-1-2022 at 2.00 PM** on his research work in the Department of History, Osmania University, Hyderabad.

The presentation was well-received and questions were answered by the Research Scholar was satisfactory.

Chairman

Board of Studies in History

Chairman, Board of Studies
Department of History
Osmania University, Hyderabad-

Head

Department of History
Department of History
Osmania University
Hyderabad, Telangana State

Copy to:

1. The Dean, Faculty of Social Sciences, Osmania University, Hyderabad-7.
2. The Principal, University College of Arts & Social Sciences, O.U. Hyderabad-7

JOINING REPORT - Ph.D

To

DATE: 10-03-2017

The Dean
Faculty of Social Sciences
Osmania University
Hyderabad.

Sub:- Joining Report into Ph.D. Course - Regarding
Ref:- Admn. Order No. 66/DSS/Ph.D.2013-14 Batch/2016 Dt. 06.03.17

Sir,

I am submitting my Joining Report as a Ph.D, Research Scholar in the Department of History..... I have paid the prescribed fee of (Rs. 2000/-) Rupees Two thousand rupees..... through Demand Draft drawn in favour of the Principal, University College of Arts & Social Sciences, Osmania University in the State Bank of Hyderabad, Osmania University Branch and reported to my Supervisor.....

Dr. G. Anjaiah Asst. Prof. of History, Arts college, O.U. Hyderabad 500007

(Name, Designation & Address)

today on 10-03-2017 My Topic of Research is Tanks and lakes Developed by Kakatiyas - Revival of Tanks and lakes by Telangana Govt. under "Mission Kakatiya - A study of Warangal District"

Yours faithfully,

Department: History

Signature: [Signature]

Name: KUNCHARAPU RAMREDDY

Forwarded to the Dean, Faculty of Social Sciences, O.U.
Reported to me on 10-03-2017

[Signature]
(Supervisor)
Department of History
Osmania University
Hyderabad-7, A.P.

[Signature]
(Chairperson, BOS)
Department of History
Osmania University, Hyderabad-7, A.P.

[Signature]
(Head of the Department)
Department of History
Osmania University
Hyderabad, Telangana State

[Signature]
DEAN
Faculty of Social Sciences, O.U.
OSMANIA UNIVERSITY
HYDERABAD-500 007. T.S.

PROCEEDINGS OF THE PRINCIPAL KAKATIYA GOVT. COLLEGE, HANAMKONDA
Present: Dr.G.Raja Reddy.(FAC) M.Com,M.Phil.,Ph.D.

Rc.No. SPL /Estt./Ph.D/KGC/2022

Date: 19.08.2022.

Sub:- UGC Pay Scales 2016 – Sanction of Incentive Increments to Dr.K.Ram Reddy,
Asst.Prof.of History, for Possessing Ph.D. – Orders – Issued.

Ref:- 1) G.O.MS NO. 15, Higher Education (UE) Department dt: 29.06.2019
Communication by CCE,T.S.,Hyderabad. Proc.File.No.CCE-RPS/CAS/43/2019-
CAS, Dt:10.07.2019.

2) Application of the Individual, dt: 04.08.2022.

In view of the instructions contained in the reference 1st cited Dr.K.Ram Reddy, Asst.Prof.of History, is hereby sanctioned three non compounded increments applicable at entry level for possessing Ph.D. as higher qualification acquired while in service. The details of increment are given below.

Sl. No	Name & Designation	Higher Qualification	Date of Award	Scale & Pay	Amount of Increments Rs.	Pay Fixed Rs.	With effect from	Date of Next Increment
1	Dr.K.Ram Reddy,Asst. Prof.of History	Ph.D	03.08.2022	57700-182400/79800	57700 x 3% = 1700x3=5100+ 79800= 84900 87200/- next stage i.e., increment applicable entry level...	87200/	03.08.2022	01.07.2023

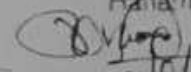
The above increment are with monetary benefit from 03.08.2022.

The above pay fixation is ordered subject to the following conditions.

Excess amount paid if any due to erroneous will be recovered from the incumbent in lump sum as and when it comes to light without notice and without assigning any reasons there-for.

That the pay fixation now ordered will be revised, if found erroneous excess payments already made due to erroneous fixation have to be made good from the arrears being claimed due to the present fixation.

PRINCIPAL
PRINCIPAL
KAKATIYA GOVT COLLEGE
Hanamkonda.


19/8/2022 - 1/100

19-8-2022

To
Dr. K. Ram Reddy, Asst. Prof. of History, Kakatiya Govt. College, Hanumakonda.
Copy to the Pay Bill Section of this College
Copy to the District Treasury Office, Warangal.

LIST OF ARTICLES PUBLISHED

S. No.	Name of the Article	Journal Name	Volume	Remarks
1.	Construction and Maintenance of Irrigation Works Under Rayas of Vijayanagara in Andhradesa 1336-1600 A.D.	International Journal of Multidisciplinary Educational Research ISSN:2277-7881: Peer Reviewed, Impact Factor: 6.514, IC Value:5.16, ISI Value:2.286	IJMER, Volume 9, Issue 11 (5) November-2020	-
2.	Role of Women in Irrigation Development in Medieval Andhradesa (1000-1687CE)	International Journal of Multidisciplinary Educational Research ISSN:2277-7881: Peer Reviewed, Impact Factor: 7.816 (2021), IC Value:5.16, ISI Value:2.286	IJMER, Volume 10, Issue 5 (1) May-2021	-

(K. Ramreddy)

Research scholar,

Department of History,

Under the Supervision of Dr. G. ANJANAH

Associate Professor of History

**IRRIGATION WORKS IN MEDIEVAL
ANDHRADESA (1000-1687 CE)**

**THESIS SUBMITTED TO OSMANIA UNIVERSITY
for the Award of the Degree of
DOCTOR OF PHILOSOPHY IN HISTORY**

By

Mr. K. RAM REDDY

Under the Supervision of

Dr. G. ANJALIAH

Associate Professor



**DEPARTMENT OF HISTORY
SCHOOL OF SOCIAL SCIENCES
OSMANIA UNIVERSITY, HYDERABAD.**

March, 2022

ISSN : 2277 - 7881 : Peer Reviewed & Refereed International Journal
IJMER, Volume 9, Issue 11 (5) November- 2020
Impact Factor : 6.514, IC Value : 5.16, ISI Value : 2.286

*I*nternational *J*ournal of *M*ultidisciplinary *E*ducational *R*esearch

(Social Sciences, Humanities, Commerce & Management, Engineering & Technology, Medicine, Sciences, Art & Development Studies, Law)



Editor-in-Chief

Prof. Dr. Victor Babu Koppula

M.A.,M.A., M.Phil.,PDF.,D.Litt



CONSTRUCTION AND MAINTENANCE OF IRRIGATION WORKS UNDER RAYAS OF VIJAYANAGARA IN ANDHRADESA 1336-1600 AD

Kuncharapu Ramreddy

. Professor of History

Kakatiya Government College Hanamkonda, Warangal (U), Telangana State

Abstract

The Vijayanagara Rulers, like the earlier South Indian rulers, realized that the prosperity of their State depends upon an efficient Agrarian economy. They took all the possible measures to maintain the previous water sources and took steps to construct new irrigational works in all parts of the kingdom to supply water to Agriculture lands. The Vijayanagara rulers and their officials constructed some major irrigation works like Tanks and the dams across rivers to regulate their water flow and artificial reservoirs to store water. Inscriptions of Sangama, Saluva, Tuluva, and Araviti rulers are containing interesting information about the state of irrigational works under the Rayas. Similarly, the native works and foreign accounts of the Vijayanagara period are also throwing light on the condition and nature of irrigation works under Vijayanagara Rulers. This research article to be discussed about the construction and Maintenance of Irrigation Works of Vijayanagara.

Key Words: Water Resources, Krishnadeva Raya, Irrigation Development, Religious Merits, Tanks and Resources, productive Resources

Statement of the Problem

Of course, with agriculture came the first big civilizations, the first cities built of mud and brick, the first empires. And it was the administrators of these empires who began hiring people to keep track of the wheat and sheep and wine that was owed and the taxes that was owed on them by making marks; marks on clay in that time.

Howard Rheingold

American Historian and Philosopher

In this article, the researcher argues that Constructions and Maintenance of Irrigation Works under Vijayanagaras may have played a major role in the growth and emergence of the Vijayanagara Empire as a dominant regime in Deccan India during 13th-16th century AD. We show that the European discovery of India offered an as yet, unrealized market and value for the natural resources of the Vijaya-nagara Empire,



for a flower garden to the deity Tripurantaku. During the period of Achyutadeva Raya (1530-1542 A.D.) his brother-in-law Peda Tirumala Raya, built a tank and a garden lay near it and granted both of them to the deity Gopinatha of Velupalem in Kondavidu. The above information is supported by an inscription dated 1530 A.D., from Sattennapallitaluq in Guntur District¹³. Krishnadevara Raya was a ruler who sought the welfare of his people. From an inscription¹⁴ dated saka 1438, corresponding to A.D. 1516, from Hospet in Carnatica, we come to know that Ranganatha Dikshitha, the purohita of the king, received a manya (tax free) village from the king and caused there in the construction of a huge tank called "Nagasamudram", after the name of Nagaladevi, the mother of the king.

Irrigation and Tanks for Agriculture

The Portuguese Chronicler Domingo Paes gave a detailed account of the construction of a big tank by Krishnadevaraya near his capital to supply water to agriculture and drinking water to the new city of 'Nagalapura' founded by him. This tank was built at the mouth of two hills "so that all the water, comes from either one side or the other collect there; and besides this water comes to it from more than three leagues by pipes which run along with the lower parts of the range outside. This water is brought from a lake which itself overflows into a river. This tank was connected by certain pipes to irrigate the gardens and rice fields around. Referring to the construction of the same tank, Nulviz writes that the emperor was assisted in the work by a Portuguese worker Joao-della-ponte an expert in stone work.

RayasamKondamarusayya, the Minister of Krishnadevaraya constructed two tanks namely 'Timmasamudra' and 'Kondasamudra' in the Kondavidu Province. 'Anantarasa' Minister of Bukka-I, got a tank by name 'Bukkaraya Samudra' excavated in Anantapur in A.D. 1364. An inscription from Vemalurapdu in Guntur district, dated in A.D. 1530, records that SalakarajuPedaTirmalayyadeva Maharaja got a tank constructed and a garden laid near it which he donated them to God Gopinatha of Velupalem in Kondavidu.

Whenever the new villages were founded or temples were built water source was also provided by rulers. The Mangalagiri pillar inscripton of Krishnadevaraya describes such grants of Nadindla-Appa, Son-in-law of prime minister SaluvaThimmarasu and the Governor of Vinukonda, Gutti and Amaravathi Simas. In A.D. 1517, he founded a village named 'Appapura', supplied it with a tank, and granted it to the temple of Gopinatha of Vinukonda. In the year A.D. 1518, RenturiChittanarusu, the agent of PradhaniSaluvaThimmarasu constructed a tank in the village 'Pedakakani' and also got another dug and donated to the local deity by his wife Tirumalamba²¹. Another instance of a lady making a grant of the tank could be known from an inscription at Vankayalapdu in Guntur district. 'Chinnamamba', wife of the chief Prataparayalu and sister of 'Ramayamantri Bacha' Chief Minister of king Achyutaraya constructed the tank known as 'Gopinatha Samudra'.



During Vijayanagara times also as in earlier times not only State but private individuals, temples took interest in the construction of irrigation works. According to an inscription of the Sangama period, dated A.D. 1441, one Mallanarya of Udayagiri constructed a tank at the village 'Mandanupati' at the instance of pontiff Bhikshavrithi²³.

Vijayanagar Empire – Irrigation Development

As the Vijayanagara Empire was very vast the tank irrigation was not enough for agriculture. As a result the rulers also tried to develop artificial water sources (Canals) and Channels were also built to supply the water to agricultural fields. Wells were also dug for irrigation and we find the reference in a few inscriptions of the period to the construction of dams across the rivers to divert the water into feeder channels thereby facilitating irrigation. An inscription from 'Tripuranatakam' in Kurnool district of Harihara-II's time records the formation of 'DevarayaNadi' by connecting the streams Gandavati and Pulleru by BhikshavrithiSiddayadevayya for the merit of Viradevaraya, son of Harihara. PenugondaViramma, brother of Virupanna, the talar of Vijayanagara dug up a spring and irrigation channel called Nutuna Tungabhadra at the village Mondya. Another inscription of AchyutadevaMaharaya times dated A.D. 1538, states that *Viranna Nayaka* got a spring dug with an irrigation channel in Gorrepalli and the lands watered by it were granted to the local temple.

Besides tanks and channels, wells also played a key role in supplying water to agricultural fields. Wells were generally dug in garden lands to provide it with constant water supply. In A.D. 1408, during the reign of Devaraya-I, Pinnayyadeva Maharaja established God Bhairava at Pentapadu in Cuddapah district, dug a well, planted a garden and granted it to the deity.

Vijayanagara Rulers not only took a keen interest in the construction, digging of new tanks, wells, and channels, but they also took great care for the maintenance and repair of irrigation works. They made special arrangements in the form of Dasavanda or KattuKodage grants in the form of tax-free lands to individuals and people who had played a key role in the maintenance and repairs of irrigational works. A series of epigraphs from Kamalapuram taluq (Cuddapah district) dated A.D. 1386 of Devaraya-I, Nandikotkurtaluq (Kurnool district) dated A.D. 1567 of Sadashivaraya contains references about 'Dasavanda' grants made by Vijayanagara rulers and their officials to maintain irrigational works. An inscription from Shimoga district states that "a ruined family, a breached tank or pond, a fallen kingdom, whomsoever restores or repairs a damaged temple acquires merit four-fold of that which occurred from them at first". Besides Dasavand grants, for the upkeep of tanks and channels, Vijayanagara rulers and individuals made arrangements in different forms. In several parts of Karnataka, a Cart was permanently maintained by the builder of the tank, or the state, or the villagers themselves, to remove silt from tank beds. Another inscription from Channapattanalaluq in Karnataka, which is dated A.D. 1513 of Krishnadevaraya's time, clearly states that king's officer KanchaSomannaVodeyar, granted the village MelaniHosahalli in Kadalursthala to provide for the upkeep of the big tank of "Kadalur" Channapattana



Sima, and it was ordered that six carts be kept, four for the Kadalur tank and two carts for the Mogehalli tank for putting earth on the bunds every year and for maintaining it in good order.

Summing Up

While the history of Easter Island teaches us that we cannot afford to be indiscriminate in using our natural re-sources, it is also important to learn that we cannot be discriminative in applying its lessons. Easter Island is a completely isolated piece of land amidst the ocean, just as our planet is in the universe. Hence lessons from the ecological disaster on Easter Island are to be practised uniformly by all humans who share this planet 'island'. The lesson is clear: Do not overeat! Unfortunately the distribution of per-capita 'eating' of our irrigation resources is highly non-uniform across countries and seems to correlate well with the intensity of preaching of sustainable use of resources (and correlated positively unfortunately). The over-consumption or over-usurpation of resources by the First World would obviously affect the survival of the entire humanity. If we need to avoid an ecological disaster in the planet, lessons should be learnt immediately. Thus the above study provides a clear idea of how the State and private individuals worked very hard to develop and maintain irrigational works during the Vijayanagara age in all parts of the empire. Aspiration of the all masses of Telangana. After the formation of Telangana State in June 2014, the Telangana Rashtra Samithi government realized the need of reviving, the old tank and reservoirs of Kakatiya and Qutbshahi times. It has launched a new program called 'Mission Kakatiya' to renovate the old tanks lakes etc., to provide a water source to agriculture.

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ROLE OF WOMEN IN IRRIGATION DEVELOPMENT IN MEDIEVAL ANDHRADESA (1000--1687CE)

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Abstract

Since the beginning of time, water has been one of man's precious needs. Water is considered to be liquid gold. Water is the essence of Nature. Without water, living things cannot survive and the world cannot exist. Most of the world's best civilizations have sprung and developed along the banks of the river and later on many rulers gave the water for irrigation and drinking utmost priority. Organized irrigation systems began in South India during the Megalithic times. But historical records prove that the kings and the philanthropists paid great attention to irrigation. One of the important aspects of the promotion of agriculture is the origin and practice of artificial tank irrigation. This research paper to be discussed in the Role of Women in Construction of Irrigation Works during Medieval Andhradesa (1000-1687 CE)

Keywords: Organised Irrigation, Raya's of Vijayanagara, Cultivating Land, Irrigation Development, Water Resources, Tank Constructions.

Introduction

Statement of the Problem

“the most prosperous of all, in the world he had seen”.

“Millions of precious gems

Millions of gold coins

Millions of miles of fertile country

Millions of amazing people”

Marco Polo

A Venetian Merchant, Explorer, Writer who travelled through Asia
along the Silk road between 1271 and 1295

In South India, the Chola Kings founded a mighty empire during AD 1000 AD 1200. The relationship between these Cholas, called the Imperial Cholas with the earlier Cholas mentioned in the Sangam literature is not clear. The Cholas came to power after overthrowing the authority of the Pallavas in South India. The founder of the Chola dynasty was Vijayalaya (9th century AD) but the real architects of the glory of the dynasty were Rajaraja I (AD 985AD 1014) and his son Rajendra I (AD 1014{ AD 1044). During the heyday of the Chola Empire, it extended from River Tungabhadra (a tributary of River.Krishna) in north to Kanya Kumari in south. The Chola Kings made a successful use of their navy and conquered not only Maldive and Lakshadweep Islands but also Sri Lanka. They also defeated the kings of Malaya and Java and Sumatra. One of the greatest contributions of Rajaraja I was the construction of the famous temple known as Rajarajeshwara or Brihadeshwara temple, dedicated to Shiva at Tanjore. He also initiated a project of land survey and assessment in 1000 CE which led to the reorganization of the empire into units known as valanadus. The rule of his son, Rajendra I was even more dazzling. He carried his arms up to Ganga in Bengal after defeating the Pala King, Mahipala. To commemorate this victory, he founded a new capital called Gangaikonda-cholapuram and acquired for himself the title Gangai-konda (conqueror of Ganga). He was a great patron of learning and was known as Pandita-chola. The last important Chola king was Kulottunga (AD 1070-1122 AD). Under him the Chola empire started disintegrating and shrunk to a much smaller area.

Medieval History – A Perspective

The state structure in this period has often been described as a decentralized political system. What is decentralized polity? It is a system in which there is of course a king as the main authority at the top, but he shares his rule with other small chiefs called feudatories or the samantas. The term Samanta basically refers to a king who has been defeated but his kingdom has been restored to him but with the condition that he will continue to accept the over lordship of the conquering king and also pay regular tribute to him in cash or kind. He may also be asked to help with military assistance in times of need. As these chiefs enjoyed freedom of administration over their regions, they were quite powerful. Surely you can guess that these chiefs could always be a threat to the



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overlord, and no wonder whenever there was a weak king at the top, they would assert their independence leading to the breakup of the empire.

Another aspect of decentralized polity was characterized by the practice of making land grants to Brahmanas and others. This practice was initiated by the Satavahanas kings in the 1st and 2nd centuries AD, but after the Gupta period it had become a normal practice all over the country. Now land grants came not only to religious persons and institutions but to state officials as well. Why did it so happen? It is suggested that one of the reasons for the increase in land grants during this period, was the decline in trade and, therefore the shortage of coined money to pay to the officials and others for their services. The shortage of coined money in the post-Gupta period is indicated by the absence of the presence of coins in archaeological finds. The land granted to the receiver was tax free, i.e., the receiver did not pay any tax to the state and used the produce and income on it for his personal benefit. The receiver was also free from any interference by his king or his officials in managing the land donated to him. Thus, this receiver converted the lands granted to them into independent property of authority with no or little central control.

Social, Economic Medieval History

The early medieval period was also marked by many social and economic changes. Socially, an important phenomenon of this period was the proliferation or increase in the number of castes. How did it happen? One of the reasons for it was the inclusion of newer groups into Brahmanical society. It is suggested that as the number of land grants increased, new areas were brought under cultivation. It made local tribal people leave hunting as their main profession and take up agriculture. They were then transformed into peasants, and assimilated in society as sudras. The land grants in fact resulted in movement and migration of Brahmanas to different internal areas where they were able to introduce and enforce their brahmanical social values. Brahmadeya represented the grant of land either in a single plot or whole villages donated to Brahmanas by making them land-owners or land-controllers. The land grants also led to the increase in the number of Kayastha class, whose principal duty, besides carrying on the general administration of the state, consisted in the collection of revenue and taxes. The Kayasthas were basically scribes and they specialized in drafting and writing land grant documents. Naturally, with increase in the number of land grants their importance also increased. But the most important feature of this period was the rise of a new class of people called the Rajputs, such as Chahamanas, Paramaras, Pratiharas, Chandellas etc. Some historians believe that they were the descendants of various groups of foreign invaders such as Sakas, Kushanas, Hunas etc, who had been coming to India from northwest during different times of history. These people gradually settled down in the region of Rajasthan and, after intermingling with the Indian society, emerged as a warrior class.

The term 'Andhradesa' indicates the area inhabited by Telugu-speaking people living in the present Telangana, Andhra, and Rayalaseema regions of Andhra Pradesh and some parts of neighboring states. Andhradesa is the name of a locality situated in Dakshinapatha (Deccan) or the southern part of ancient India, as recorded in the paliBuddist texts. The people of Andhradesa, i.e. the Andhras are also referred to in the Rock Edicts V and VIII of Asoka as a vassal tribe. Andhradesa is the place between the Godavari and Krishna rivers. During the period between 1000-1687 CE, these regions were ruled by Kakatiya, Musumuri, Rachakonda Velama, Reddi, Vijayanagara, and Qutbshahi rulers. Agriculture was the primary occupation of the majority of people in medieval Andhradesa. The prosperity of any country depends upon its economy supported by agriculture revenue.

Agriculture was the primary occupation of the majority of people in medieval Andhradesa. The prosperity of any country depends upon its economy supported by agriculture revenue. The means of irrigation of agriculture have been provided by rivers, monsoons, streams, lakes, canals, and cyclones. The absence of adequate rainfall and water sources was necessary for agrarian expansion was made possible by the creation of artificial irrigation which acquired great importance in the Andhradesa.

Irrigation Development

To study the irrigational works under the Kakatias, Rayas of Vijayanagara, and Qutbshahis several archaeological and literary sources are available. Wherever the rulers constructed temples, tanks, reservoirs, and canals, they laid inscriptions. Apart from plenty of inscriptions, literary sources are also available to understand irrigation facilities. Here an attempt is made to present a note on various types of epigraphical and literary sources, which belong to the period of study i.e, 1000-1687 A.D., and which throw light on the irrigational works in the medieval Andhradesa.

The contemporary inscriptions and literary works are providing useful information about various tanks built by Kakatiya, Velama, Qutub shahi rulers, their officials, rich people, Royal family women in different parts of Andhra Desa. Most of them are catering to the needs of present-day society. In this paper, an attempt is made to highlight "The contribution of women in the construction of tanks in medieval Andhradesa". They took steps to repair the old wells, tanks, canals. They also constructed a large number of tanks, lakes. This helped the peasants of this region to live happily. In this paper, an attempt is made to highlight the role of women's participation in the construction of irrigation works in medieval Andhradesa.



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Objectives of the Research Study

The two important objectives of the present research article are:

1. So far, no scholar has attempted to highlight the role of women in the construction of irrigation works in the medieval Andhradesa.
2. It is also aimed to estimate the importance of these irrigation works in the progress of agriculture.

Kakatiya rulers followed the "Land Reclamation Policy". "Land Reclamation" in general means bringing fresh land under cultivation or making land cultivable. With particular reference to the Kakatiyas, the Land Reclamation policy had two aspects. Firstly, the construction of a large network of tanks for irrigation, reclamation of forests, and formation of new villages and secondly granting these villages as Devadana lands¹ to the temples and as Agrahara lands² to the Brahmanas. Kakatiyas realized that vast areas of fertile land were left uncultivated owing to a lack of adequate irrigational facilities. They also conceived the method of harnessing the big streams by constructing dams at suitable points along their course to form large reservoirs in which water sufficient to irrigate vast areas of land could be stored up. It was a technique by itself in those days to build good tanks³, Divine prosperity is always there in Hindu ethics attached to the construction of tanks which in several codes is mentioned as one of the sapta-Santana or seven deeds of everlasting virtues. The Karimnagar inscription of Gangadhara, minister of Rudradeva⁴, the Ganapesvaram inscription of Ganapatideva⁵, and several other inscriptions allude to Sapta Santana's namely, his son, a temple, a garden, a tank, an agrahara, a literary work, and a treasure.

Important Event in Medieval History

During the Kakatiya period, the rulers, officials, queens, and chiefs of Kakatiyas took a keen interest in the development of agriculture to provide water supply. In the Telangana region, they paid much attention to the storage of water. Huge tanks were built at different places like Bayyaram, Ghanpur, Kesamundram, Sundavaram, Laknavaram, Pakala, and Ramappa are in existence even today.

The land was the main basis of the Kakatiya economy and primary source of revenue. The Kakatiya rulers showed keen interest in providing irrigational facilities and expanding the area of cultivable land. "the Kakatiyas realized that the red and sandy soil of Telangana, lying on a bed of granite and crystalline rocks, was extremely fertile and eminently suitable for wet cultivation, its porous character demanded a plentiful supply of water to make it fruitful and yield sufficient grain to feed the people⁶. The large tanks were capable of irrigating thousands of acres of land whereas Cheruvus or Kere (tanks) were small tanks or village tanks which could irrigate a few hundred acres of land.

The prosperity of any country depends upon its economy supported by agricultural revenue. To improve agriculture the state resorted to artificial means of irrigation for the betterment of the economy. Several inscriptions refer to the construction of tanks by the Kakatiya rulers from the time of Prola I A.D. 1052-1076. A couple of Prola's inscriptions coming from Bayyaram⁷ and Motupalli⁸ states that he excavated a tank and called it KesariTatakam (a big tank) after his well-known title Arigajakesari⁹. The village named KesaSamudram (present Kesamudram Mandal headquarter) is existing even today. with a big tank by its side. This village is in Mahabubabad district¹⁰. This is the only reference we have about the excavation of tanks by Prola I.

It is quite interesting to notice that women of all classes had shown much interest in constructing water bodies to help the rapid growth of agriculture, horticulture, and animal husbandry. It was mainly the concept of saptasantanas that inspired them to undertake the tank construction activities. It was this spirit that inculcated the brains of even the common women to involve themselves in one form or the other in the construction of a tank, a canal, or a well. If they were not in a position to contribute monetary donations, they donated their physical labor in executing the tank or canal construction.

Basavapuram explains how a female domestic servant Chandava, who used to work as a daily- wagger, contributed her physical labor freely and voluntarily when the government was venturing on the construction of a tank. It is mentioned that she did so, aiming at her religious merit¹¹.

The middle-class women believed that it was not only a meritorious act from the religious point of view, but also would bring about economic prosperity to the fellow-beings, quenches the thirst of cattle and birds, and consequently brings a marked social significance. As their economic resources were limited, they made donations for smaller irrigation works like digging canals and wells and for their maintenance. An inscription dated AD.1293 from Tripurantakam¹² informs us that a lady named Potasani had spent 156 golden gadyanas for constructing a tank called Tripurasamudram at Tripurantakam. Some canals named after women such as ProlakammaKaluva, Rudrama-Kaluva, KuppammaKaluva, Vengamma-Cheruvu (Kalvapalli, Warangal Dist.) and so many water bodies referred by the epigraphs reveal their involvement in the development of irrigation.



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The Kakatiyas attached much importance to the involvement of women in tank construction. Epigraphical evidence prove that almost all the female members of the Kakatiya family made donations for the construction of tanks and built townships around them with all amenities. We have many references to the construction of tanks and temples by the wives of chiefs belonging to the Kakatiya period. Mailama, the sister of Ganapatideva constructed Bayyaram tank (Khammam Dist) in 1194 A.D. and Matedu tank in 1117 A.D. (Mahabubabad Dist) on the name of her mother Bayyaladevi, after clearing the forest area and invited the farmers to cultivate the lands within the vast catchment area. The Bayyaram tank was constructed at a place where three streams pass between hillocks with lofty bunds of rocks and mud. According to the Bayyaram inscription, Mailama developed an ideal township known as Bayyavaram on the name of her mother Bayyaladevi.

Ganapatideva's other sister Kundamamba also excavated a tank called KundaSamudram after her name in A.D. 1219. Kundavaram¹³ and Nidigonda inscriptions inform us that Ganapatideva's other sister (and wife of Natavati Rudra) Kundamamba also was credited with the construction of tanks in Adilabad and Warangal Districts. Likewise, the village Muppavaram and Muppasamudram were constructed in the name of the wife of Mahadeva. Mailama constructed another tank known as Dharmasagaram (Warangal Dist.) on her title name "Dharmakirt" which she attained by her munificent acts. She constructed the Muppavaram tank, Tripurantakam tank, and many other smaller tanks and dug canals, where habitations were developed on her name as Mailavarams. Muppasamudram and Muppavaram (Warangal Dist.) were constructed on the name of the mother of Mahadeva by Mailama. Nearer to it, another tank namely Mahadeva-Samudram was constructed by Mailama in the name of her father.

Mahadevapuram township also was developed there by Mailama, which (both tank and township) are still in a flourishing condition. For the maintenance of the temple and the tank. Erukanamma of the Recherla family constructed a tank known as Erukasamudram founded a village Erakavaram and built a temple there to Erukeswaradeva, which was equipped with a Vidyamantapa. The same inscription informs us that she constructed another tank namely Laxmana-Samudram at Pillalamarri. Mailama, wife of MalyalaChaundaSenani built two tanks at Katkuru¹⁴ (Karimnagar Dist.) for the merit of her parents and husband in A.D. 1224 and 1240 respectively. The Peruru inscription (Nalgonda Dist.) dated A.D. 1262 informs us that one Yadava Perumandi Devi caused to dig Nallarijeruvu, Muccha-Samudram, Veligandia-cheruvu and Balevemula-cheruvu between A.D. 1199 and 1262. Another inscription records that queen Gundamadevi constructed Gundasamudram.

An inscription dated A.D. 1276 records that queen Kuppambika, wife of MalyalaGunda-Senani, constructed a tank and a temple in the name of her husband. The inscription also records a long list of meritorious activities of the donor including the construction of a tank in Bothpur (Mahboobnagar dt.) for the religious merit of Kakatiya Ganapatideva in A.D. 1271. The Kuppasamudra and Bacha-samudram constructed the same place deserve our notice for the techniques adopted in excavating and making use of feeder canals which are controlled by the sluice to fill the tanks; the bund of the former being made use of a group of hills and piles of stones. A feeder canal is stated to have been dug from Bacha-samudram connecting Kuppasamudram so that it can always be full of water. These two tanks were known as brothers.

The Pammi inscription (Warangal Dist.) dated A.D. 1234 records the construction of Muppadiakunta, Maddekunta, Bhiramvarikunta and Madhavakunta by ViriyalaNagasanamma. Queen Rudrama, who ruled the Kakatiya kingdom as Rudradeva Maharajunmgaru during A.D. 1262-1289, too undertook many public welfare activities including the three 'Ts' i.e., Tank, Temple, and Township. She founded many villages on the name of her father and her name such as Ganapavaram, Ganapuram, Rudravaram, Ambapuram, etc. According to Pratapa Charitra, Rudrama built 1000 Ambapurams and several Rudravarams throughout the Kakatiya kingdom, these were the villages founded around the tanks, lakes, and canals extended from reservoirs to the fields of cultivation.

Kakatiya's Social Development Activities: A Historical view

Thus, during the Kakatiya period, we can observe the political and diplomatic power vested in the hands of the king and that of the ritual with the queens and course ministers at, the instance of the king. They tried to increase the resource base of the state by contributing to the extension of arable lands through deforestation, providing irrigation, and founding many new villages.

The epigraphical evidence proves that the responsibility of sharing ritualistic duties (SaptaSantanas) especially constructing tanks, temples, and township by the female members of the ruling families helped in strengthening not only the economy of the state but also gaining popular support to their political power. As such, we can see innumerable evidence in the inscriptions and literature to this fact. The women of royal and noble families extensively toured in the kingdom and tried to regulate the local government system by summoning the village assemblies.



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Thus, we can observe a definite dynamic role played by the women of this period. The women belonging to the ruling class and noble families shared the responsibility of administration along with their husband and in the event of his demise, they took the reins into their hands. Kota GanapambaChagiMuppaladevi and Kota Pandambika of Tadikonda, ViriyalaNagasanamma, MalyalaKuppambika, etc., can be mentioned as the best examples in this regard, who worked as governors and samantas and strove for the development of agriculture, horticulture, and irrigation. Kota Ganapamba was much appreciated by Marco polo for her services to the growth of industry and trade which received a boom as a consequence of immigration and agricultural development.

Irrigation Works – Women Role in Medieval History

Lastly, it can be observed that the donations made by women who aimed at the welfare or religious merit of their family members like father, mother, husband, children, brothers or sisters and sometimes to redress the distress of destitute indicate their dedication to family and society, which reminds us of the motherly touch in public relations. The tanks they constructed were surrounded by newly founded townships in which these women donors provided all amenities including hospitals and educational centers. Rudrama established even a maternity hospital in Mandadam village (Guntur Dist.) and a herbal garden according to the inscription set up there, she made such arrangements at many other places specified therein²³. The participation of women including the poorer section by extending free service as laborers in tank construction and repair works is a noteworthy thing that indicates the root level of social involvement.

The history of Vijayanagar(1336-1650 A.D.) is a glorious chapter in the history of Medieval South India. It was the last important Hindu kingdom in South India. The Vijayanagara kingdom was founded in 1336 A.D. by Harihara- I and Bukka- I of Sangama dynasty with the advice of sage Vidyanarya¹⁵. They ruled from C 1336 to 1630 A.D. The four dynasties Sangam, Saluva, Tuluva, and Araviti) of Vijayanagar ruled over entire South India and a large part of Andhradesa. They had taken care to provide water facilities like tanks, wells, and canals for the development of agriculture. The construction of tanks, wells, and canals for the development of agriculture.

Effective measures were taken during the reigns of the earlier Kings of Vijayanagara to bring new land under cultivation. In Krishnadeva Raya's famous book "Amuktamalyada" he states that it is the extent of the State that decides the prosperity of the State and the prosperity is increased only when tanks and irrigation channels are constructed and favor is shown to the poorer cultivators in the matter of taxation¹⁶. The excavation of tanks was particularly considered as one of the "Saptasantanas" or the seven acts productive of religious merit¹⁷. Thus, during the Vijayanagara period, great attention was bestowed on the conservation of rainwater.

The Kaifiyats (village records) credit the kings of Vijayanagara for devoting their attention and resources to the welfare of the people. From the Kaifiyat of Kanala, we come to know that the Queen's mother Nagamma constructed a tank at a small village where she halted on her way back from Tirupati. She granted the village Kanala as an agrahara (tax-free village) to Brahmins renaming it KrishnarayaSamudram after her son¹⁸.

Several inscriptions refer that the rulers, nobles, and officials built several tanks or reservoirs, wells, and canals. Krishnadevaraya paid much attention to provide a water supply. During the reign of Krishnadevaraya, Paes visited the kingdom during the irrigation work was in progress in his capital.

Historical Era of Nizam

In A.D. 1518, RençuriChittamarusu, agent of PradhaniSaļuvaTimma constructed a tank in the village Pedakakani and also got another dug and donated to the local deity by his wife, Tirumalamba. Another instance of a lady making a grant of the tank could be known from an inscription at Vankayalapadu in the Guntur district. Chinnamamba, wife of the Chief Pratapayalla and sister of Ramaya Mantri Bacha, Chief Minister of king Achyutaraya constructed the tank known as Gopinatha Samudra. Varadarajamma, the wife of Krishnadevaraya dug Kambamcheruvu at Kambam. Chejerla inscription refers that Kondamarasayya constructed Tummasamudra and Kondasamudra in 1518 A.D. Kaluvayi inscription states that Rayamarasayya built a tank named "Kaluvayicheruvu" on behalf of his beloved parents in 1519 A.D.

The Qutb Shahi Kingdom was founded in 1518 C.E. as the capital of the Golconda in the Deccan region. This was one of the five states of the Bahmani kingdom. The founder of the kingdom was QuliQutb Shah, hailed from Persia. After the fall of the Bahmani kingdom, he declared independence in 1518 CE. After the downfall of the Vijayanagar empire, the region came under the control of Qutub Shahis of Golkonda. Agriculture was the primary occupation of the majority of people of this age. The Qutbshahi rulers like Kakatiya rulers realized the importance of constructing and maintaining small and big irrigational works for agricultural



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activities. The rulers of Golkonda provided water facilities in the Telangana region. They constructed tanks and dug canals for major rivers.

Maa-Sahaba Tank in Hyderabad

There was a tank in Hyderabad which was generally known as 'Masab Tank'. The tank bund is completely dry and converted into a public park now. Many people believe that this tank was built by Hayat Bakshi Begum, as she was called 'Maa Sahiba'. But it was not built by Hayat Bakshi Begum but by Khanum Agha the daughter of Mir Maqsood Ali Tabatabai. Khanum Agha was the wife of Mirza Mohammed Amin and mother of Mohammed Qutb Shah. We know this fact by the epigraphs that were carved out on the two towers of both sides of the bund. They were in 18 x 26 1/2 size in Naskh script¹⁹. A mud bund was constructed over it to stop the water. Banjara Hills and Jubilee hills areas were its catchment areas.

Maa-Saheba Tank Near Hayatnagar

This tank was built on the highway of Nagarjuna Sagar, at a distance of 8 miles from Hayatnagar and 15 km. from Hyderabad city. Gulam Hussain Khan in Gulzar-e-Asafia (Persian) writes that Hayat Maa Sahiba had built a tank near Hayathnagar.²⁰ The Telangana region is a rain shadow area and has a limited river system. Even those rivers which flow across this region are hardly beneficial for cultivation. There is no big river that flows across the Telangana region. Only the river Krishna flows touching peripheral zones of Telangana. The region ruled by Rachakonda and Devarakonda chiefs lay mostly in the present-day districts of Mahaboobnagar and Nalgonda. The contemporary epigraphic and literature furnishes information on source reveals that the establishment of new villages and tank construction²¹.

Many epigraphs issued by the Rachakonda and Devarakonda chiefs speak of the construction of tanks and wells²². The Velama rulers worked for the cause of improving agriculture in the region. Many tanks and lakes were constructed on the premises of their capital 'RachakondaMadanayaka's wife Naagambika' built a tank at Rajagiripotam (Rachakonda) which was known as 'Nagasamudram'.

The Velama rulers worked for the cause of improving agriculture in the region. Many tanks and lakes were constructed on the premises of their capital 'Rachakonda. Madanayaka's wife Naagambika' constructed a tank at Rajagiripotam (Rachakonda) which was known as 'Nagasamudram'. According to an inscription found at this place, Madhanayaka wrote a commentary on 'Raghaveeyam'. He dedicated it to Lord Sree Rama.

During the Reddi period, the rulers gave much preference for digging wells. But unfortunately, there is no epigraphical evidence of a good irrigation system. Well, irrigation was preferred in the areas where there was water scarcity due to the low rainfall, particularly in the Palnad area. Lankelabavi, Kanyakalabavi and peddigalabavi were dug by the Reddi Kings.

Near the village of Kolloru in the Sattenapalli taluk are found traces of two bunds of ruined tanks, 'originally intended to collect the water from the hills on the east'²³. Santanasagara was one such tank constructed during the reign of Peda Komati Vema by his wife Surambika. This fact is known to us from an inscription is the Virabhadrasvami temple in the village of Phirangipuram in Sattensapalli taluk, dated in Saka 1331. It is quite interesting to notice that women of all classes had shown much interest in constructing water bodies to help the rapid growth of agriculture, horticulture, and animal husbandry in Medieval Andhradesa. It was mainly the concept of saptasantanas that inspired them to undertake the tank construction activities. It was this spirit that inculcated the brains of even the common women to involve themselves in one form or the other in the construction of a tank, a canal, or a well. The Kakatiyas attached much importance to the involvement of women in tank construction. Epigraphical evidence proved that almost all the female members of the Kakatiya family made donations for the construction of tanks and built townships around them with all amenities.

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CHAPTER – I

INTRODUCTION

The term "*Andhradesa*" indicates the area inhabited by Telugu speaking people living in the present Telangana, Andhra, and Rayalaseema regions of erstwhile Andhra Pradesh and some parts of neighbouring states. Andhradesa is the name of a locality situated in the "*Dakshinapatha*" (Deccan), or southern part of ancient India, as recorded in the Pali Buddhist texts. The people of Andhradesa, or the Andhras, are also referred to as a vassal tribe by Emperor Ashoka in the Rock Edicts V and VIII. Andhradesa is a place located between the Godavari and Krishna rivers. During the period under study, "Irrigation Works in Medieval *Andhradesa* 1000–1687 CE", this region was ruled by *Kakatiya*, *Musunuri*, *Padmanayaka*, *Reddi*, *Vijayanagara*, and *Qutbshahi* rulers.

'*Andhradesa*' comprised of present Telangana and the Andhra Pradesh States. Coastal Andhra is very fertile with natural water supply facilities from the rivers like Godavari and Krishna. Rayalaseema is a low rainfall area, being in the rain shadow region and devoid of perennial rivers. Telangana is covered by hills and valleys with limited natural water resources available. Rainfall being uncertain, there could be continuous years of dry-spell resulting in water scarcity and famine. The Medieval rulers of this region encouraged the construction of artificial tanks, lakes, etc., i.e., *Telangana*, and *the Rayalaseema* region. Artificial irrigation systems

are well developed in the above two regions by rulers and other institutions to extend water facilities to agriculture.

Society during medieval times also realized the necessity of the conservation of rainwater. So, rich people, guilds, and temple authorities were also involved in the construction and maintenance of all sorts of irrigation works.

Importance of Water – Relation between Water and Society – Views of Hindu thinkers

The importance of water for living creatures is well recognized by ancient and medieval thinkers and rulers. Agriculture stood as the chief occupation of the majority population during the Ancient and Medieval periods in India. In Andhradesa, irrespective of age, region, most of the Andhra rulers gave great importance to agriculture, as it fetched huge revenue in the form of land revenue to the imperial exchequer. So, they realized the importance of the conservation of rainwater by constructing tanks, lakes, ponds, etc.

History is full of very interesting anecdotes and stories about how the various rulers and their officials managed their water resources and how many wars were fought to get control over water bodies. Since the beginning of time, water has stood as one of man's primary necessities. "Water is considered to be the liquid gold in the East". Water is intimately linked to human existence and is the source of societal and cultural development, traditions, rituals, and religious beliefs. Rivers beds served as the birthplaces of all great civilizations in various parts of the world. Water bodies were important in the rise, progress, and fall of civilizations.

There are references in ancient in medieval literature about the various forms of water sources. '*Rigveda*' mentions irrigation through 'Ring wells. Irrigation has been an art practiced in our country since time immemorial. Its existence could be traced back to centuries before the Christian era. Many references to the value and existence of irrigation works and the importance of water can be found in ancient scriptures such as the *Rigveda*, *Atharvaveda*, *Ramayana*, *Mahabharata*, and Puranas contain many references to the value and existence of irrigation works and the importance of water. The scriptures laid down the construction of wells, canals, and tanks as part of the duty of the ruler or king to the society.

The Vedas, particularly the *Rigveda*, *Atharvaveda*, and *Yajurveda*, specifically dwelt upon the hydrologic cycle and various associated processes. The concepts of evaporation, cloud formation, water movement, infiltration and river flow, and repetition of the cycle are explicitly discussed in these ancient texts. Among the other works, "*Rigveda*" also mentions a water-lifting device known as "*Asma-cakra*", and *Ghatyanta* (similar to Noria). The hydrologic cycle and artificial wells were also mentioned in the Ramayana. Mahabharata explains the monsoon seasons and the water uptake process by plants. The *Matsyapurana*, *Vayu Purana* and *Brahmandapurana* mentioned the processes of evaporation, formation of clouds due to cyclonic, convectional, and orographic effects, rainfall potential of clouds, and many other associated hydrological processes.

Water is the most important element of the planet i.e., Earth. The qualities of water and its essential nature are recognized since ancient times. In several

instances Indian literature refers to the precious nature of water. The vital activity of water in natural phenomena is well recognized in India. The Hindus attached divinity to water and called it '*Ganga*' and '*Yamuna*'. Vedic Aryans worshipped '*Varuna*' as the rain God. The banks of rivers, river confluences, places of water springs, seashores, etc., are treated as sacred places, where the temple was built and gods installed¹, where religious congregations, or *Tirunallu* or *Pushkaraalu* used to take place on special occasions.

Most of the ancient civilizations in the world have sprung and developed along the river banks of the river beds. History is full of very interesting anecdotes and stories about how the various rulers managed their water resources and how many wars were fought to get control over water bodies. Most of the great ancient civilizations such as The Indus Valley, Egyptian, Mesopotamian, and Chinese developed on the banks of the rivers.

Since the beginning of civilization, water has been one of man's chief needs. Water is considered to be the "liquid gold". The organized irrigation system began in South India during the megalithic times. But historical records prove that the kings and the philanthropists paid great attention to irrigation. One of the important aspects for the promotion of agriculture is the origin and practice of artificial tank irrigation. Contemporary sources are revealing the great religious and social significance attached to the creation of irrigational works like tanks, canals, sluices, wells, etc. We come across specific instances.

Since the Ancient period, the importance of water is well recognized. Water is a key driver of economic and social development and one of the fundamental elements in sustaining the integrity of the natural environment. It is the major renewable resource amongst the various natural resources. Water is an indispensable constituent for all life-supporting processes its assessment, conservation, development, and management are of great concern to all those who manage facilities and utilize them.

One of the well-known quotations on water management is by John F Kennedy (1917-1963), the 35th President (1961-1963) of the United States of America, who said way back in 1962, “*One who solves the problem of water should get two Nobel Prizes*’ – one for science and the other for Peace”.² Water has indeed become one of the most used, abused, misused resources in modern times. The heads of modern states are dragged into water issues due to their importance rather than petrol or gold.

The View of Hindu Thinkers:

The importance of irrigation works also emphasized by ancient and medieval thinkers, scholars, poets, and rulers. ‘*Tiruvalluvar*’ was a celebrated Tamil poet and philosopher of the Sangam Age. In his famous work ‘*Tirukkural*,’ says that “*The world cannot exist without water, there will be no ceaseless supply of rainfall*”.³ That means “rain gives life to all creatures” vegetation and restores the life to what

seems to be dead. So that water is the elixir of immortality. It plays an important role in the rites and rituals; the medium of transport generates the power and source to crops.

Krishnadeva Raya (1509 – 1529 A.D.) the greatest ruler among the Vijayanagara rulers in his classical work "*Amukthamalyada*" also expressed his views on promoting the need for irrigational facilities by rulers.⁴He states that the extent of a state is the root cause of its prosperity and that if it is small, its prosperity would increase only when tanks and irrigational canals, tanks are constructed and favor is shown to the poor cultivators in the matter of taxation.

The prosperity of the kingdom always depends upon the irrigational facilities extended by the king to farmers. His views and methods became an inspiration to contemporary administrators such as Prime Ministers, Presidents, or Chief Ministers. The latest scheme of "Mission Kakatiya" launched by the honourable Chief Minister of the newly formed Telangana State can be quoted as the best example. It can be quoted as the best example of the state government ability to cater to the needs of its peasants and agriculture.



Launching of Mission Kakatiya Programme by Hon'ble Chief Minister K. Chandra Shekhara Rao on

View of 'Vignaneshwara' the author of the 'Mitakshara':

References are also there in many contemporary ancient and medieval literary works. The "*Mitakshara*" of *Vignaneswara*, who adorned the court of Chalukya Vikramaditya VI (1076–1126 A.D.), advocates the importance of irrigation works by stipulating rules and regulations for the construction of tanks, etc., and their protection. These stipulations are useful even in modern society.

“When after obtaining the permission of the owner of the field either by request or by payment of money, a man wishes to erect a dam for water or sink a well, and if the owner of the field occupies it, the owner himself is punishable”

The construction or digging of a tank is considered by the early writers as the greatest of the seven meritorious acts of a man⁵. Patanjali in Yoga sutra (4th BC) also mentioned a technique of yoga used by the farmer to divert a stream.

The rulers of Medieval times in *Andhradesa* took all necessary steps to promote Irrigational development due to the absence of adequate rainfall and water sources necessary for agrarian expansion. This was made possible by the creation of artificial irrigation, which acquired great importance in the Andhradesa. As perennial rivers were few and major irrigation works and canal systems were rare, water had to be stored in tanks at convenient points. Artificial reservoirs were constructed by damming smaller streams and lakes were enlarged by closing their outlets. In the contemporary inscriptions, these reservoirs were referred to as '*Kere*', '*tataka*,' '*samudram*,' and '*kunta*,' meaning tanks.

During the *Chalukyan* rule in Telangana, several tanks were dug at the initiative of local chiefs and officials like '*gavundas*' (village head). Madivojanakere⁶ (Medak), Bhima Samudramu (Mahbubnagar) are two important tanks mentioned in the *Chalukya* inscriptions. Brihat-tataka (Nalgonda), Achebbe Samudra⁷ (Chopadandi in Karimnagar), etc., Construction of tanks was considered to be one of the seven meritorious acts called '*SaptaSanthanas*' during the Kakatiya period. The Karimnagar inscription of '*Ganagadhara*' a Minister of Rudradeva describes '*SaptaSanthanas*'.⁸

During the megalithic period, people led a settled life and possessed a broad-based subsistence economy supported by specialized technology, which included the construction of large-scale water tanks. Hence, most of the megalithic sites are

found near the water tanks. The best example is Nagarjunkonda. Several megalithic and neolithic sites were found in the Andhra region and major irrigation systems were in use by the megalithic people in early Andhradesa.

The Satavahana king took a keen interest in the development of agriculture by providing irrigation facilities. "LilavatiParinya" a Prakrit work describes that Satavahana king Hala's marriage held on the banks of Sapta Godavari specified with a tank at Draksharama in East Godavari district.⁹ At Nagarjunakonda, people utilized the waters of canals and wells.¹⁰

The "*Myakadoni*" inscription¹¹ from "Pulumavi," showed the construction of a large tank meant for irrigation. Symbols on the obverse of some early Satavahana coins from Kolhapur showed that water wheels were used for irrigation.

The Krishna-Guntur regions were ruled by the Ikshvakus, who had their capital in "Vijayapuri" (Sriparvatha). During the period of Ikshvakus (Sriparvatiya), agriculture received great encouragement from the rulers and their officers. From the inscriptions of Ikshvakus, we learn that Abhivasusena dug two tanks for irrigation and planted palmyrah groves.¹²

Andhradesa, after the rule of Ikshvakus, the "Vishnukundins", Aanandagotrikulu, Salankayanas, Brihatpalayanas, and early Pallavas, ruled over Andhradesa before the advent of the Kakatiyas. During the period, irrigation was carried out by wells and tanks. In the "Tummalagudem" copper record of Govindavarma, he refers to himself as the builder of wells and tanks. The early Pallava kings also granted the sites for digging wells. The Vilavati plates of Pallava Simhavarman (436–460 A.D.) recorded the collection of the tax from

Kupadarsakas (well water diviners) and further revealed that there were experts in divining water who approved of the sites proposed for digging wells.¹³ The tanks at Turimella, Chilamekuru, Kondapalli, Gudimallam and Avilali.¹⁴

Definition of the term Irrigation:

Irrigation comes from the Latin for 'moist' or 'wet,' but it means the purposeful wetting of something. Irrigation systems are often complex combinations of canals, channels, and hoses. Work irrigation is also used in medicine to describe the process of washing out a wound before dressing it. Irrigation is the artificial process of applying controlled amounts of water to land to assist in the production of crops. Irrigation helps to grow crops, maintain landscapes, and revegetate disturbed soils in dry areas and during periods of less than average rainfall.

Irrigation is the artificial application of water to the soil for crop production. Scientific management of irrigation water provides the best insurance against climatic and weather-induced fluctuations in total food production. Hence, irrigation policies and programs play a crucial role in an agriculture-oriented economy and help stimulate food production.

It is a well-known fact that irrigation has multiple advantages for the economy and society. Mankind survived on the availability of water through its efficient forms of utilization. Efficient control of irrigation water distribution is supposed to contribute to increased agricultural production by making possible planting at the optimal time, extending the effective cropping season, and permitting, in the process, a switch to the high productivity of high-value crops.

Therefore, irrigation, both in terms of technique and structural process, needs to be understood for economic development, irrespective of age or region.

The organized irrigation system began in South India during the megalithic times. But historical records prove that the kings and philanthropists paid great attention to irrigation. The origin and practise of artificial tank irrigation is an important aspect of agricultural promotion. Records on stones and metals have explicitly revealed the great religious and social significance attached to the creation of irrigational works like tanks, canals, sluices, wells, etc. We come across specific instances.

Source of Irrigation

Sources of irrigation water can be groundwater extracted from springs or by using wells; floodwater spreading; surface water withdrawn from the flow of a stream, lakes or reservoirs, or non-conventional sources like treated wastewater; desalinated water, or drainage water.

Types of Irrigation

The water resources for irrigation can be classified into two kinds: natural and artificial. The former includes rain, rivers, tributaries, streams, and small gullies, while the latter includes manmade structures such as reservoirs, ponds, ditches, tanks, wells, canals, dams, and river channels. Surface water is withdrawn from the flow of a stream, and lakes or reservoirs.

Irrigation in Ancient India; water Conservation Methods; A Brief Survey

The discoveries at Mohanjadaro and Harappa revealed that agriculture was the chief occupation of the people. It seems an extensive network of reservoirs, wells, and canals as well as low-cost water-harvesting techniques, were known to the Indusvalley people. At *Mohenjodaro* and *Dholavaira*, the two major sites of the Indusvalley, are the best examples of the advanced water management and drainage systems of the people. Eminent archaeologists like Sir John Marshall, Dayaram Sahni, etc. declared that along with cattle rearing, trade, and commerce, agriculture was also practised by the Induspeople.

The “*Rigveda*” mentions that “God has created the Sun and placed it in such a position that it illuminates the whole universe and extracts water continuously (in the form of vapor) and then converts it to cloud and ultimately discharges it as rain” (verse 1.7.3). Many other verses of the “*Rigveda*” further explain the transfer of water from the earth to the atmosphere by the sun and wind; breaking up of water into small particles, evaporation due to sunrays and subsequent rain; and the formation of clouds due to evaporation of water from Mother Earth and its return in the form of rain. Verse I, 32, 10, of the *Rigveda*, further mentions that the water is never stationary but continuously evaporates, and due to the smallness of particles, we cannot see the evaporated water particles. According to *Atharvaveda*, the sun's rays are the main cause of rain and evaporation.

During the Vedic age, the principle of collecting water from hilly areas of undulating surface and carrying it through canals to distant areas was known to the Vedic people (Bhattacharya, 2012). In the “*Rigveda*”, many verses indicate that

agriculture can be progressed by the use of water from wells and ponds (verse I, 23.18 and verse V, 32.2). Verse VIII, 3.10 mentions the construction of artificial canals by Ribhus, or engineers, to irrigate desert areas. Verses VIII, 49.6 and X, 64.9 emphasize efficient use of water, i.e., the water obtained from different sources such as wells, rivers, rain, and any other sources on the earth should be used efficiently, as it is a gift of nature for the wellbeing of all. There are also references to irrigation by wells (verse X, 25), canals (word '*kulya*' in Rigveda's (verse X, 99), and digging of the canal (Verse X, 75) in the Rigveda.

The Vedas, particularly the *Rigveda*, *Yajurveda*, and *Atharvaveda*, have many references to the water cycle and associated processes, including water quality, hydraulic machines, hydro-structures, and nature-based solutions for water management.

The Vedic texts and other Mauryan period texts such as Arthashastra mention other hydrologic processes such as infiltration, interception, streamflow, and geomorphology, including the erosion process. The dawn of the *Mauryan Age* in the history of ancient Indian history was described by eminent historians like R.C. Majumdar and Romila Thapar as the great revolution. Agriculture stood as the basis for the Mauryan economy. The Mauryan rulers, their officials, and well-to-do people tried to improve the water resources. Irrigation works were built in different parts of the country.

The first observatory for measuring rainfall using "*Varshamaan*" (rain gauge) was invented during the Mauryan Empire in India. The reservoirs, dams, and canals equipped with spillways were constructed for irrigation and domestic

supplies with adequate knowledge of water balance. A water pricing system was developed. Some structures were also constructed that were considered 50-year return periods. In water history, the Mauryan period is recognized as the first and foremost hydraulic civilization. They had also developed a system to forecast rainfall.

The Mauryan kings took a keen interest in the irrigation schemes. The *Ahar-Pyne* system of the Mauryan age was an excellent example of rainwater harvesting and irrigation management, which is still practiced in the Southern Bihar and Chota Nagpur region. Several hydraulic structures were built during the Mauryan period for irrigation and drinking purposes. An excavation work by the Archaeological Survey of India close to Patna was revealed for navigation and irrigation. Interestingly a verse of 'Atharvaveda' mentions that those who use rainwater through rivers, wells, and canals for navigation, recreation, agriculture, etc., prosper all the time.

Kautilya, the author of "Arthashastra," explained the need for elaborate irrigation works to be encouraged by the state in his monumental work "Arthashastra. The Mauryan age was known as the first "hydraulic civilization" and is characterized by the construction of dams with spillways, reservoirs, and channels equipped with spillways (Pynes and Ahars); they also had an understanding of water balance, the development of water pricing systems, the measurement of rainfall, and knowledge of the various hydrological processes.

In "*Panchasiddhantika*" of "*Varahamihira*" (505-587A.D.) a great astrologer, and astronomer, contains a very interesting story about the role of termite knolls as

an indicator of underground water. Apart from underground water exploration, some of the verses of the chapter deal with topics such as the digging of wells; their alignment regarding the prevailing winds; dealing with hard refractory stony strata; sharpening and tempering of stone-breaking chisels and their heat treatment; treating water with herbs when having an objectionable taste or smell; protection of banks with timbering, stoning, and planting with trees; and such other related matters.

Tanks (rainwater-harvesting structures) were constructed for irrigating the paddy fields in southern India about 2000 years ago. The Chola King, Kari Kala, constructed the Grand Anicut on the Cauvery River for flood protection and irrigation in the Cauvery delta during the first century A.D.

In the ancient period, the construction and maintenance of irrigation works by rulers and well-to-do people produced wonderful results. The agrarian economy became sound peasants supplied the society with various types of food grains, flowers, and fruits. Land revenue has become the chief source of income for the state exchequer.

Importance of Agriculture in Andhradesa

Andhradesa comprises present-day Telangana, Andhra Pradesh and some other parts of neighbouring states. Coastal Andhra is fertile with natural water supply facilities from the rivers like Godavari and Krishna. Rayalaseema is a low rainfall area, being in the rain shadow reign and devoid of perennial rivers. Telangana is covered by hills and valleys with limited natural water resources available. With rainfall being uncertain, there could be continuous years of dry-

spells, resulting in water scarcity and famine. There is a greater need for artificial irrigation in the Rayalaseema and Telangana regions. Artificial irrigation is well developed in the two regions mentioned above. The artificial irrigation system was started in South India to promote agriculture because it was the primary source of revenue. The people knew the importance and value of the usage of water.

A careful study of available source material related to the pre-historic age, the ancient and medieval periods reveal that agriculture was the primary occupation of Andhra since early days. The Satavahanas and their successive dynasties have shown a keen interest in the improvement of agriculture. Irrigation facilities were provided.

Irrigation by reservoirs by constructing embankments across two hills was referred to in the '*Haravilasam*¹⁵' of Srinatha. Tanks and reservoirs were known as '*tatakas*'. The Pithupuram pillar inscription of Mallapadeva denotes that when Narendra fought one hundred and eight battles and also engaged in the construction of tanks, he ruled the country excellently for forty-eight years.

The advent of the Kakatiyas as sovereign rulers in Andhradesa has heralded a new era in the history of the agrarian economy. It paved the way for the beginning of large-scale irrigation work and methods. As the Telangana region was less rainy and dry, the Kakatiyas encouraged the construction of irrigation works on a large scale, or *Golusucheruvulu*.

During the Kakatiya period the rulers, officials, royal family women, and chiefs also took a keen-in interest in the irrigation works for the development of agriculture to provide water supply. In the Telangana region, they paid attention to

the storage of water. Many tanks were built at different places like *Bayyaram*, *Ghanpur*, *Kesamundram*, *Kundavaram*, *Laknavaram*, *Pakala*, and *Ramappa*. Even today, most of them are catering to the needs of the peasants of this region.

The Chain Link Tanks (*Golusucheruvalu*), a new type of tank, were the brainchild of the Kakatiya age. The present Telangana Rastra Samithi's government and its supreme, the honourable Chief Minister Sri Kalvakuntla Chandra Shekar Rao, according to the promise made in the Telangana Rastra Samithi's election manifesto, introduced a prestigious programme known as "*Mission Kakatiya*" to transform this drought-stricken region into a water-fed "*Bangaru Telangana*". His vision has produced excellent results; the "*Kaleshwaram*" project is a good example. The future appears very positive due to the active voluntary participation of people in this "*Mission Kakatiya*" Programme in the form of "*Mana Ooru*" and "*Mana Cheruvu*" restoration programmes of village tanks, which have become a social responsibility.

The "Chain Link Tank" (*Golosucheruvu*) system can be found in the Wardhannapet Mandal Warangal District villages of Inole, Panthini, Punnole, and Kakiralapalli.

- The chain-link tank system is observed mainly in the Kakatiya dynasty.
- The Chainlink system of tanks is for saving every drop of water in that particular area.
- The tanks are in intact condition as they are in series.

- Every tank's surplus water goes to the lower tank and this will continue for all tanks.
- Every tank has a particular ayacut for irrigation facilities.
- For years, these tanks were used as a drinking water source as well.

Nowadays, we are using the Dickens and Rational methods for calculating the weir length, head of discharge, and bund length of the tanks. Kakatiyas also adopted similar technology in the construction of the tanks, which shows the professionalism of the engineers at that time.

These tanks were constructed based on the principle of “**food for work**”, duly involving the people for the exchange of food grains. For years, the Kakatiya kings provided direct employment for the people in every village for years together. This is the evidence of the tanks in every village of the Telangana region. The Kakatiyas also tapped large streams and constructed lakes like Ramappa, Laknavaram, Bayyaram, Ghanpur, Pakala, and others, which are the large tanks in the Telangana region

The large tanks like ‘Ramappa’ and ‘Laknavaram’ were constructed with small bunds using the hillocks as a bank, creating a large body of water that serves three crops in one filling, which shows the intelligence of the Kakatiya Engineers. With all these developments in the Kakatiya kingdom, agriculture flourished and provided direct employment to the labourers and indirect facilities to the farmers.

After Kakatiya's these tanks were maintained and renovated by QuliQutb Shah's and Nizam kings, unfortunately, after independence, these chain link tanks

got neglected. The tanks covering ayacut more than 100 acres were renovated and maintained by the Irrigation Department. The small tanks having an ayacut of less than 100 acres, were maintained by the Panchyat Raj Department for more than 60 years and were neglected. More than 90% of the tanks are not in good condition and need repairs to their bunds, weirs, and sluices. Furthermore, these links are silted up, and the original capacity of the tank was reduced. As per the records, these tanks are serving lakhs of acres, but it is not happening due to the bad conditions of the tanks. 70% of the tanks were not renovated or repaired.

Due to the damaged condition of the tanks, water was not stored in the tanks and leakage occurred there. The chain-link tanks were not served. Due to heavy rainfall, breaches were observed in the tanks, which affected the lower chain of the tanks. Hence, all the tanks in the chain-link should be renovated to get into good condition. On the eve of the Kakatiya festival, we should recognize the importance of chain link tanks and proper planning should be made for the renovation and restoration of these tanks.

The major problem with tanks in urban areas is with real estate people. They are grabbing the tanks and making illegal colonies. That's why 300 tanks were not observed in greater Hyderabad out of 500 tanks. It is also evident in Warangal like Balasamudram colony instead of Balasamudram tank. ChowduCheruvu in the name of KUDA enclave. High floods and drainage problems in the rainy season occur due to the demolishing of tanks in urban areas. The present status was changed after the formation of Telangana State in June 2014 and the launching of the '*Mission Kakatiya*' programme by the new government.

As per the source of the irrigation and command area development department of the government of Andhra Pradesh, the list of the tanks in the Telangana Region is as follows.¹⁶

Name of the District	Tanks>40 ha	Command	Tanks>40 ha	Command
Mahaboobnagar	655	60456	5374	41732
Ranga Reddy	280	31647	2037	19242
Nalgonda	541	69034	4076	32287
Warangal	756	75482	3920	30253
Khammam	393	57870	2097	21914
Nizamabad	325	34492	2272	25078
Medak	889	66348	5174	41048
Karimnagar	622	64977	4495	42583
Adilabad	602	52802	1375	16366
Total:	5063	513108	30820	270503

Source: Irrigation and command area development department of the government of Andhra Pradesh

The decline of Kakatiya power in the year 1323A.D.due to the success of the Delhi Sultanate's last attack on Warangal gave rise to the new political chieftain Kingdoms in Andhradesa and South India. The “*Musunuri*” chiefs, the “*Reddis*” of

‘*Kondavidu*’, Rajamundry, Velamas of ‘*Rachakonda*’, ‘*Devarakonda*’, Vijayanagara kings, and Bahmanis during the post-Kakatiya age continued the model set by the first major Telugu kings, i.e., the Kakatiyas. The rulers extended great support to agriculture and worked for the cause of constructing irrigation works.

The Musunuri chiefs, Prolaya Nayaka (1323-1332 A.D.) and his successor, Musunuri Kapaya Nayaka (1333-1368 A.D.), became the champions of Hindu culture and their subjects in the ex-Kakatiya territories. Through their visionary and dynamic spirit, they restored many Hindu temples and other local institutions. Many earlier tanks, wells, lakes, etc., were restored by them. New irrigation works were also built by them at *Recapalli, Hanumakonda, Srisailam, Orugallu, Alampur, and Bhadrachalam*.

The advent of ‘*Velamas*’ or Padma Nayakas as ‘*Rachakonda*’ and ‘*Devarakonda*’ as their political centres also gave a new boom to the irrigation activities in this region. The present tanks in use in Nalgonda, Devarkonda, Miryalaguda, Suryapet, Mahaboobnagar, and Khammam areas were built or renovated by the Velama kings and their officials.

The ‘*Velama*’ or ‘*Padmanayakas*’ of ‘*Rachakonda*’ and ‘*Devarakonda*’ during their rule in Telangana extended all types of encouragement to improve the state of peasants. They renovated many tanks and canals from the Kakatiya age. Inscriptional evidence from ‘*Ainavolu*’. Another epigraph from ‘*Devala village*’ dated, 1380 A.D., by the same king, refers to the construction of “*Rayasamudram*” by the same ruler. Another epigraph dated, 1429 A.D, of queen ‘*Nagambika*’, wife

of 'Rao Mada Nayaka' of 'DevalaNagaram' Village, refers to the construction of "Nagasamudram"¹⁷ Tank by her. From the above facts, we can conclude that the Velama or Padmanayaka kings, their officials, and royal family women had shown a keen interest in the construction and maintenance of tanks, canals, etc. to promote agriculture and salvation as per the age-old Hindu belief.

The Reddi rulers who ruled the Coastal Andhra region between 1324 and 1424 A.D. were also known for their concern towards the cause of providing water facilities to peasants in agricultural fields. Contemporary epigraphs of Reddy rulers and their officials, as well as literary works written by Reddi and Velama era scholars and poets, provide very interesting details about the true spirit of rulers and their officials toward the construction of irrigation works. The Vijayanagara Kingdom was founded in the year 1336 A.D. by Harihara-I and Bukka-I, the ex-officials of the last Kakatiya ruler, Prataparudra-II, and their successors, Saluva, Tuluva, and Aravidu, also took a keen interest in the construction of irrigation works in different parts of their kingdom. They had taken care to provide water facilities like tanks, wells, and canals for the development of agriculture. The construction of tanks, wells, and canals for the development of agriculture. The construction of tanks was looked upon as one of the seven meritorious acts (*Saptasantanas*) that a man ought to perform during his lifetime.

One of the reasons for the flourishing economic condition of the Vijayanagar empire in the early Fifteenth-century lay in the construction of irrigation works, which brought new areas under cultivation and huge land revenue to the Imperial

treasury. Several inscriptions mention that the rulers, nobles, and officials built several tanks or reservoirs, wells, and canals.

The below table gives an idea about some of the important irrigation works of the Vijayanagara age:

Sl. No.	Name of the Irrigation work/ Year of Construction	Name of the Ruler/ Dynasty/ Minister/Officer	Place of Location	Reference/ Source
1	' <i>Bukka Raya Samudram</i> ' (1364 A.D.)	Bukka-I Chikka Anantrasa Udaiayar Minister	'Anantapur' District	S.I.1 Vol.XVI No. 63
2	<i>Porumamilla Tank</i> (1369 A.D.)	' <i>BhaksaraBhavaduga</i> ' Son of Bukka-I & Governor of ' <i>Udayagiri Rajya</i> ' in 1369 CE (Saka-1291)	'Badvel' Taluq (Kadapa District)	E.I. Vol.XIV, No.4. Cuddapah District Inscriptions Vol-II, No.11
3	' <i>Kamalapuram</i> ' Tank (1386 A.D.)	Devaraya-I	<i>Kamalapuram</i> (Kadapa District)	Kadapa District Inscriptions Vol.II, No.19
4	' <i>Hindupur</i> ' Tank (1388 A.D.)	Saka 1309 -1388 A.D. Polinayaka son of MahaNayankaracharya	'Hindupur' Taluq, (Ananthapur District)	S.I.I. Vol.XVI. No.14
5	' <i>Hospet</i> ' Tank (1398 A.D.)	Harihara –II, Saka-1319-1398 A.D. Near ' <i>Prasannanjaneya</i> ' temple by Ganapati Pandita's two sons Virupaksha Pandita and Vinayaka Pandita	' <i>Hospet</i> ' (Bellary District)	No. A.R.E 351 of 1935

6	Bellary Tank 1412 A.D.)	Devaraya-I Saka 1333- 1412 A. D	Bellary District Hospet	A.R.E. No.25 of 1924
7	'Markapuram' Tank (1441 A.D.)	Devaraya-II Mallaya Mantri	(1441 A.D.) Kurnool District	S.I. Vol.XVL No. 33
8	'Nagulapuram' Tank	'SrikrishnaDevaraya' Saka 1438, 1516 A.D.	'Hospet' District	S.I.I. Vol.IX, Part-II, No. 504
9	'Atukuru'Tank 1516 A.D.	'Naddinadla Appa', Brother-in-law of 'SaluvaTimmarasu'	Guntur	E.I. Vol, IV No. 12
10	'Gopinath Samudra' (1518 A.D.)	'Krishnadeva Raya''''	Guntur	S.I.I. Vol.IV, No. 702, S.I.L. Vol.XVI, No. 121
11	'Badvel' Tank (1526 A.D.)	'SrikrishnaDevaraya' Saka 1448-1526 A.D.	Badvel Taluq Kadapa District	A.R.E 35 of 1941-42
12	'Kondasamudra' and 'Srimmannarayana Samudra' 1554 A.D.	Sadashivaraya granted 'Dasavandha' grant to Mahamandalesvara Avub hala Raju in 'Pedakally Village' in Saka 1477	Sirvel Taluq Ku rnool Dist	S.I.I. Vo. XVI, No. 199

The Qutbshahi Sultans of Golkonda, who ruled the Andhradesa between 1518 and 1687 A.D, really exhibited the true spirit of religious tolerance. They made the local Telugu people an integral part of their administration. 'Akkanna' and 'Madanna', 'KancharlaGopanna', 'Jagadeva Rao', 'Murari Rao', etc. played an important role in the consolidation and protection of Qutbshahi political power in the Deccan. The Qutbshahi rulers also initiated many measures to construct new

irrigation works in Andhradesa to generate confidence in the hearts of the poor peasants of Andhradesa. They also renovated many existing tanks, canals, and lakes and also constructed a number of new tanks in different parts of their kingdom.

Ibrahim-Quli-Qutbshah constructed a famous tank named '*Ibrahimpattanam Tank*' just 50km east of Hyderabad.¹⁸ The '*Masab tank*'¹⁹ was built by the royal mother, '*Maa-Saheba*', '*Hussain Sagar*'²⁰ lake was built by the Sultan in memory of '*Shah-Hussain-Shah wali*' a famous Sufi saint. The Qutbshahi Sultans renovated a number of small and large-sized lakes, tanks, canals from the earlier period in the Telangana region. This has contributed to the economic prosperity of the Golkonda kingdom.

The peasantry was free from tax oppression. Land revenue officials were generous towards the peasantry. The state also received $\frac{1}{4}$ as the state's share from the peasants. Thus, during the period of understudy, we can observe the spirited and generous attitude of Hindu or Muslim rulers towards the cause of improving the irrigation facilities. The peasantry in Andhradesa enjoyed the parental attitude of local rulers, their officials. This spirit became a model and a guiding force for the modern ruling government in this region.

Review of Literature

In the past hundred years, scholars and historians of the Deccan and Northern India have produced empirical works on the various aspects of the history of Medieval South India in general and Andhradesa in particular.

Here, a brief account of the significant works of earlier learned historians is presented to make this research more meaningful.

Chilukuri Virabhadra Rao's *Andhrula Charitramu*, (1912) in (Telugu) was the first detailed history of the Andhras. He used information from Mackenzie manuscripts, and inscriptions to reconstruct the history and culture of the Andhra dynasties. According to him, "Biographies of kings and nobles are no more than the barest framework of history". His focus is on aspects like institutional progress and the development of the administration. In this context, he dared to describe the Kakatiyas as Sudras.

Moorland, W.H.'s *The Agrarian Systems of Moslem India*, (Allahabad, 1929) is also providing an idea about the nature and state of the Irrigation policy of Muslim rulers of Medieval India.

K.A. Nilakanta Sastry's "Foreign Trade under the Kakatiyas", *Journal of Oriental Research*, Vol. III, No.4, Madras, 1934 is an article that deals with external trade in Medieval Andhra under the Kakatiyas. It is considered to be a micro-level study in trade and commerce, which was transacted by foreign traders with those of Andhra traders.

In his classic work of **Nelaturi Venkataramanayya's** "*Studies in the History of the Third Dynasty of Vijayanagara*" (1935), discussed the economic aspects related to agriculture, irrigation, trade, commerce, etc. The learned scholar used information from inscriptions, literature (Telugu and Sanskrit works), and Mackenzie's Manuscripts.

M.Rama Rao in his works "*Kakatiyas of Orugallu*", and *Kakatiya Sanchika* (1935), (Telugu) he described the general history of the Kakatiyas.

Appadorai, A; in his monumental work **Economic Conditions of South India 1000-1500**, (Madras, 1936), discussed the economic structure, agriculture, soil, types of irrigation systems, cultivation of crops, production, prices of food grains in southern India from ancient times to the medieval period. This work is very useful in understanding the present theme.

Another leading scholar, **Mallampalli Somasekhara Sarma**, in his classical work *History of the Reddi Kingdoms (1948)* (Circa 1325-1448 A.D), not only tried to cover the political history of Reddi rulers but also tried to highlight various economic aspects of the Reddi Age, like agriculture, industry, and trade.

Suravaram Pratap Reddy, in his book, wrote: *Andrula Sangika Charitra* (1949) (Telugu) narrated only the social conditions in Andhras, working on the state and society under the Velamas. In this work, he provides a detailed scene on polity and economy under different points.

T.V. Mahalingam's *Administration and Social Life under Vijayanagar, Economic life in the Vijayanagara Empire* in his work he explained the various

economic aspects of Vijayanagara times. Part-II social life tried to describe the industry, trade, and commerce in Vijayanagara. He made extensive use of foreign travel accounts in his study. The aspects like migrations were not covered by him.

K. Sundaraam's *Studies in Social and Economic Conditions in Medieval Andhra (1000-1500)*, by Triveni Press, Machilipatnam, 1968, is a study on socio-economic formation in terms of different social and economic aspects.

A. Vaidehi's, *Social and Economic Conditions in the Eastern Deccan, 1000, 1200*, Hyderabad, 1970, studies the socio-economic system of agriculture taxation, weights and measures, and trade and commerce in Medieval Andhra.

A. Nagabhushanam's *Economic Conditions in the Western Deccan, 1000-1450*, Hyderabad, 1971, deals with the economy in the western Deccan in terms of irrigation, taxation, weights and measures, land tenures, trade and commerce, etc. Under trade and commerce, he had given a clear nature of native and foreign trade and guilds and their functions carried out by the latter.

The History of the Qutbshahi Dynasty of H.K. Sherwani (1974) contains a few details about the economic aspects of the Qutub Shahi age.

The Kakatiyas of Warangal by P.V. Parabrahma Sastry is an important contribution to the socio-economic History of the Kakatiya period. On Kakatiyas, different scholars work on different aspects. Political aspects, society, economy, culture, and military aspects were touched by earlier scholars.

Palati Ravi, Arvind's (M.Phil's work (JNU Delhi, 1981) *The Agrarian Systems of JayakondaCholamandalam under the Vijayanagara Rule (1350-1656 A.D.)* is also providing an idea about the agrarian economy and irrigation policy of Rayas.

Early History of Deccan edited by G. Yazdani (1982) is providing few details about the general geographical and political history of the Medieval Deccan.

P. Chenna Reddy's *Guilds in Medieval Andhra 1000 -1500 CE* (Delhi 1991) is a micro-level study on the nature of guilds in Medieval Andhra and their role in socio-economic life.

Burton Stein's *Peasant State and Society in South India* (1992), which contains valuable information regarding the relationship between religion and society, state and religion, and religion and economy. They dealt with the activities of the temple, matha, and agraharas also to some extent. But they left some gaps in the history of Kakatiyas.

K. Jaya Sree's, *Agrarian conditions in Vijayanagara (1992)* In this work, she made the study of agriculture, crops, and irrigation policy of Rayas of Vijayanagara. It is a unique work that is throwing much light on the real nature of the agrarian economy under Rayas.

M. Krishna Kumari's works on *History of Medieval Andhradesa* (1994, Kanishka publishers Delhi). In this work, she had given detailed information about the Vijayanagara period and how the rulers collected fines from corrupt revenue officials, this amount was donated to temples to construct or renovate tanks and canals.

V. Anila Kumari, *Andhra Culture during the Kakatiya Times* (1997) published by Eastern Book Linkers.

Cynthia Talbot's *Pre-Colonial India in Practice-Society, Region and Identity in Medieval Andhra*, (Oxford University Press, 2001). Here, the author effectively analyses the historical processes that led to the multiple identity formations during the Kakatiya period through a detailed examination based on information called from epigraphs.

R. Soma Reddy in his recent studies in the *Socio-Economic History of Medieval Andhradesa* (Research India Press, New Delhi 2007), has attempted to provide some new aspects about the Irrigation policy of rulers of Medieval Andhradesa and the role of religious institutions in the promotion of Irrigation works.

C. Somasundara Rao's in his recent work *Studies in Andhra History and Culture* (Emesco publishers, 2019), has attempted to provide some details about agrarian aspects of Medieval times.

T. Dayakar Rao's *History of Padmanayaka's (Velama Kingdoms) Rachakonda and Devarakonda* (Sree Bhagavan Publications 2016) work gives some details on state and society under the Velamas. In this work, he had given a detailed account of polity and economy under Padmanayakas.

The Comprehensive History and Culture of Andhra Pradesh People, volumes III, IV, V and VII, published by Pottisriramulu Telugu University, Andhra Pradesh History Congress edited by C. Somasunder Rao, R. Soma Reddy, V. Ramakrishna (2015-2019), are provide very interesting details about the present theme.

Similar contribution to South Indian History was made by British administrators like **Col.Mackenzie (1796-1823 A.D.)**, **C.P.Brown (1901-1985 A.D.)**, who served in different parts of South India and the Deccan in different capacities. The appointment of Mackenzie as the Surveyor-General of South India in 1796, by the British Government, heralded a new era in the history of South India.

Mackenzie with the help of local clerks, especially the ‘Kavali’ brothers, collected created good source material in the form of stone and copper plate inscriptions, local records, and Telugu classics. For example, an important outcome of Mackenzie's hard work was that for the first time, many young Indian scholars were trained in the scientific method of shifting “facts” and collecting source material to reconstruct the history of South India. As a result, tremendous data from the villages relating to details on peasants, revenue, rent, caste, customs, tribes, popular religious practices, and family genealogies of various ruling families belonging to different ‘Samsthanas’ and ‘Zamindaris’ were systematically collected. These collections have been preserved in the form of Kaifiyats village Kaifiyats popularly known as the ‘Mackenzie Manuscripts’. The material collected from the Kaifiyats (Guntur, West Godavari, Kurnool) published by the State Archives Research Institute, Tarnaka is used in the drafting of this thesis.

The foreign accounts of French men like Tavernier, Bernier, and Thevenot, and English travellers like William Methold also contain very useful information about the trade of Qutbshahi times.

Methodology:

This study, originally a historical one, is confined to a historical approach. The secondary data has been collected through various books, contemporary published inscriptions, and unpublished works such as dissertations and theses. These materials are multidimensional i.e., inscriptions, *Kaifiats*, literary Works, travelogues, chronicles, etc.

1. The present study is primarily based on the Historical Method. In addition to secondary data, the primary source material is collected from reports published by the Department of Archaeology. They are found in the State Archaeology Museum Archives; Osmania University Library, Hyderabad City Central State Library, Afzalgunj, PottiSreeramulu Telugu University Library, Hyderabad; Kakatiya University Library, Warangal Kanamara Library, Chennai and Madras State Archives, Chennai; and a fieldtrip to different tanks located in different parts of Andhradesa (Telangana and Andhra Pradesh). The field trip revealed that most of the earlier irrigation works were occupied by public, residential, or industrial belts that emerged in the context of rapid urbanization in prevision Andhradesa. Especially in and around the present Warangal and Hyderabad districts and their surrounding areas.

Hypothesis:

1. It is to be established, based on data collected from primary sources, what the primary motivation of the rulers of Medieval Andhradesa was. Without establishing a regular irrigation department, how could they

have created and promoted irrigation facilities to the peasants of this region for the first time?

2. To what extent did the attempts of the 'Kakatiya' rulers and their successors become a source of inspiration for how their subjects also got inspired and evolved in the mission of improving irrigation facilities for the welfare of the peasantry?
3. To what extent the construction of *Golusu Cheruvulu* (chain tanks) became a boom for the peasants of their kingdom is to be established based on data gleaned from primary sources.

Objectives:

The primary objectives of the present study are as follows

1. The first objective is to reconstruct the history of the irrigation works in *Andhradesa* during the period under study, i.e., between 1000-1687 CE.
2. Identification of the real motivations of medieval rulers towards agriculture and peasants.
3. Proving the response from non-ruling classes to achieve a good response towards irrigation works and identification of the significant irrigation works of the period under study.
4. To emphasize how the irrigation policies of the rulers of Medieval Andhra became an inspiration to the policymakers/ present Government to transform the drought-hit dry and unfertile tracts of Telangana into

“Bangaru Telangana” through ‘Mission Kakatiya’ Program launched by Sri. Kalvakuntla Chandra Shekar Rao, the Chief Minister of the newly formed Telangana State.

5. Identifying the excellent engineering skills of the experts (masons) of the age in selecting a site for the construction of a tank or a dam as referred to in the ‘*Porumamilla*’ epigraph.

Scope and Nature of Study:

The study is mainly confined to the irrigation works in Andhradesa between 1000-1687CE. It deals mainly with the “Irrigation works” of the region under the Kakatiya, Musunuri, Velamas, Reddi, Vijayanagara, and Qutbshahi rulers. It seeks to highlight the importance given to irrigation work during the period of the present study, i.e., 1000-1687 A.D. It also focuses on the innovative irrigation technology used in construction and maintenance, as well as the material and manpower used by the rulers. The participation of women in construction is being reviewed. The spirited attempt of women belonging to the Royal family in this mission is to highlight.

Significance of the Study

The present study /research occupies a unique significance as the area and theme of the present period have not been touched by any scholar so far with a specific purpose.

1. The rulers of Medieval Andhradesa were known for their unique achievements in various fields. But the keen interest shown by them in

improving the irrigation facilities has not been properly probed by earlier scholars. So, in this work, a comprehensive attempt is made to provide a solid idea based on data collected from primary sources.

2. An attempt is made to identify the unique technique used in the repair of old irrigation works and also in the construction of new irrigation works.
3. The spirit of Kakatiya rulers, their officials, other social groups succeeded in the growth of the agrarian economy. The improvement in the state of peasants of this region improved. How the rich legacy of Kakatiyas inspired successive rulers of Andhradesa between 1000-1687 A.D. has made a grand improvement in the status of the peasantry and the agrarian economy. It is also realized that how the present '*Telangana Rastra Samithi*' Government led by visionary and dynamic Chief Minister Sri. Kalvakuntla Chandrasekhara Rao is deeply influenced by the real zeal of '*Kakatiya rulers*' to improve irrigation facilities in their Kingdom. To transform the highly neglected Telangana region by the earlier heads of the State (Andhra Pradesh) between 1956-2001. His popular slogan "*Manaooru Mana Cheruvu*" and "*Mission Kakatiya*" a highly popular scheme to restore and construct major irrigation works, such as 'Kaleshwaram', 'Mallanna Sagar' and so on, to transform the drought stricken Telangana into a "*BANGAARU TELANGANA*" are to be an empirical studied. This attempt will fulfil the real motivations of

medieval rulers and the present rulers of this region in the construction and maintenance of irrigation works.

Chapterization:

The present research work is divided into eight chapters to make objective-oriented research.

First Chapter: The First chapter, introduction, deals with a brief political history of the period and Origins, evaluation of the issue on hand i.e., the need for irrigational works. An attempt is also made to provide a brief review of the political history of the period to provide a solid idea about the contemporary history of the rulers of medieval Andhradesa and their aims to promote Irrigation Sector.

Second Chapter: In the second chapter, i.e., ‘Sources’, an attempt is made to identify the primary and secondary sources related to the area of the present study, both primary and secondary sources of the period are studied and extreme care with the data collected based on a field trip to different tanks/lakes of the period still under use in present days is also utilized.

Third Chapter: In the third chapter, an attempt is made to identify the prominent irrigation works of the Kakatiya (1000-1323 A.D.) period. This chapter explains the state of irrigation works in Andhradesa before the advent of the Kakatiyas and the spirited efforts made by the Kakatiyas and their officials to improve the water facility for agriculture by constructing a large number of “*GolusuCheruvulu*”. The significant tanks and lakes built

by Kakatiyas and their officials in different parts of Andhradesa were identified. Along with the epigraphical and literary source material collected from them, a field work study to the some of the tanks is also included. The present status of three tanks is discussed.

Fourth Chapter: The Fourth chapter examines “The irrigation works during post-Kakatiya age (1324-1424 A.D.). Particularly under Velama (Padmanayaka) and Reddy rulers who ruled Andhradesa between 1324-1475 A.D. were discussed

Fifth Chapter: The Fifth chapter deals with the Irrigation works of Rayas of Vijayanagara in Andhradesa (1336-1614 A.D.). An attempt is also made to identify the primary objectives of Vijayanagar rulers in promoting Irrigation works. The important irrigation works were built by them and their officials on the basis of data collected from epigraphical and literary sources.

Sixth Chapter: This chapter deals with the Irrigation policy of Qutbshahis of Golkonda, who ruled Andhradesa between 1518-1687 AD.

Seventh Chapter: This chapter is the core of the present study. It deals with the aims, attempts, and irrigation policies of the rulers of Medieval Andhradesa. The unique methods adopted by the Kakatiyas and their successive rulers of Andhrades to make the construction and restoration of different types of irrigation works and society’s overall responsibility to provide peasants an assurance to improve the agricultural production without

the high tax burden. The schemes like “*Dasabandhamanyas*” and their real motives were also explained in this chapter.

Eighth Chapter: This is the conclusion of the research work. This chapter provides an overall view of the present study and the findings, and it describes, how the irrigation policy of the rulers of the medieval Andhradesa became a torchbearer for the present Government of the newly formed Telangana State.

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 'Pallamulu Chakkani Koyyala Dravva Vitthudur
 Gorika Yaratambulaga Kondala Kaaluvala Kattudur Neeriki"
 ...పల్లములుచిక్కనికొయ్యలద్రవీఈవిత్తుదుర్
 గోరికయారటంబులగగొండలకలువడ్డకటటుదూర్పిరికి ...
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CHAPTER-II

SOURCES

In the drafting of any historical research work, information collected from the different authentic primary and secondary sources will play a significant role. In the case of the present research work i.e., **Irrigation Works in Medieval Andhradesa 1000-1687 CE**, source material collected and analyzed from epigraphical and literary sources of the contemporary period is used with great care in a true spirit, i.e., objectivity. The important epigraphs of the Kakatiya, Padmanayaka, Reddy, Vijayanagara, and Qutbshahi period were identified, studied, analyzed, and shown in the form of tables in chronological order in Chapter Two. The information found in contemporary literary works such as *Sakalaniti Sammatam*, *Palanativeera Charitra*, *Simhasandwatranika*, *Rukmangada Charitra*, *Amukthamalyada*, *Rayavachakam*, Foreign Travel accounts on the state and need of Irrigation works responsibility of the state, rulers, Impact of better Irrigation Works on agrarian economy, State of Peasantry, explained is on the basic source material collected and analyzed.

A) **Epigraphical Sources:**

The epigraphs related to the present area of study were in various languages, such as *Telugu*, *Sanskrit*, *Kannada*, and *Persian*. The literary works were also in the above languages. Inscriptions are the most copious and authentic

sources for the various aspects of South Indian History. They are found on stones, pillars, temple walls, and copper plates. They are issued by Kings, Ministers, Generals, Provincial Governors, rich people, officials, guilds, etc., to mark a special event. These epigraphs were not originally recorded or written to provide historical information to present generations. The ‘*Anumakonda*’ epigraph¹ of Rudradeva (1163 AD), The ‘*Ramappa*’ Temple epigraph² of Ganapatideva (1213AD), (his commander in chief, Recherla Rudrasenani) and the ‘*Pakhal Lake*’ epigraph³ dated (1244 AD) of Ganapatideva, Rachakonda, and Devarakonda epigraphs of Velama Kings. *Phirangipuram* Village epigraph⁴ dated 1331 A.D. of Pedakomati Vema Reddi’s period from Sattenapalli Taluq, Guntur district clearly states that Surambika wife of the king constructed a tank named ‘*Santanasagara*’ at Phirangipuram. The epigraph is found at the local *Virabhadraswami* Temple. In the year 1409 A.D. Rachavema Reddi, son of Pedakomati Vema Reddi, constructed a channel named ‘*Jaganobbogonda Kaluva*’⁵ as a feeder to the tank Santanasagara constructed by his mother, Surambika. *Porumamilla*’ Tank⁶ epigraph (1369 A.D.) by Bhaskara Bhavaduga (Bukka-I). It was erected under the guidance of Singaya Bhatta, a hydraulic engineer. ‘*Kamalapuram*’ Tank epigraph⁷ (1380 A.D.) of Devaraya-I age, *Markapuram* Tank of epigraph⁸ (1441 A.D.) of the Devaraya-II age, ‘*Nagalapuram*’ Tank epigraph⁹ (1516 A.D.) of Srikrishnadevaraya, ‘*Gorepally*’ tank¹⁰ of the Achyataraya’s period (1534 A.D.) and ‘*Kondasamudra*’ and ‘*Srimannarayana Sumudra*’ (1554 A.D) epigraphs of the Sadasivaraya period are mentioned about the tanks of the age of Rayas.¹¹ They are containing valuable historical data about political, economic, social, and religious aspects of the period. The data collected from epigraphs is corroborated with the

data collected from literary sources of the present period and used in drafting this thesis in an impartial way.

The Tirumala Tirupati Devasthanam authorities published the inscription of Sangama, Saluva, Tuluva, and Aravidu rulers. A report was written by Sadhu Subramanya Sastry. This report is throwing light.

The below-given table gives an idea about the important tanks of the Kakatiya age in Andhradesa.

A) Kakatiya Age (1000 – 1323 A.D.):

Sl. No.	Name of the Inscription	Name of the King	Date/ Year	General Remark available evidence or source
	<i>Palampet</i> Lake Inscription ¹² Ramappa Temple	Ganapatideva	1213 A.D	This tank was constructed by Recharla Rudra General of Ganapatideva
	<i>Pakhala</i> Lake Inscription ¹³	Ganapatideva	1244 A.D	Jagadalu Mummadi constructed the tank.
	<i>Bayyaram</i> Lake Epigraph ¹⁴	Ganapatideva	1219 CE	Bayyaram Tank Inscription was issued by the Mailamba sister of Ganapatideva. It gives useful information about the Genealogy of Kakatiyas.
	<i>Ghanpur</i> Lake Epigraph	Ganapatideva		
	Laknavaram Lake	Ganapatideva		
	Pillalamarri Epigraph ¹⁵ (Suryapeta)			S.I.I. Vol, X No: 472
	Kolanupaka Epigraph ¹⁶			
	<i>Anumakonda</i> Thousand Pillar inscription ¹⁷	Rudradeva	1163CE	It describes the military achievements of Rudradeva

The irrigation works, socio-economic and cultural progress in this region has witnessed a great setback since the decline of the Kakatiya Kingdom in 1323 A.D. due to the conquest of Andhradesa by the Delhi Sultanate forces. But the ex-officials and generals of Prataparudra-II led a heroic struggle against the oppressive rule of the Delhi Sultan's Viceroys over Andhradesa.

The pathetic conditions in which local Telugu people suffered is well described in the historic "Vilasa" Copper Plate grant¹⁸ of Musunuri Prolayanayaka (dated, 1324AD) 'Kaluva Cheruvu'¹⁹ (Tanuku Taluq, West Godavari) grant of Reddy Queen and Anithall Queen of Allada Vira Bhadra Reddy of Rajamahendravaram. She made a gift of the village 'Kaluva Cheruvu' to Paribita son of 'Kalanatha Bhatta' in the year 1423 A.D.

The spirited efforts of Musunuri Prolayanayaka and his successor, *Musunuri* Kapayanayaka, in the erstwhile Kakatiya territories of *Recapalli* or *Orugullu*, united all the local groups to liberate the Telugu Country from the autocratic and oppressive rule of the Delhi Sultan's Viceroys. As a result, by 1324 A.D, new independent powers emerged in the form of Padmanayaka/Velama, Reddy (1325-1428 A.D) and Vijayanagara (1336-1640A.D.) in South India. These rulers made serious attempts to extend full support to agriculture and irrigation work. Keeping in mind the importance of agrarian products and the land revenue to be received by the imperial treasury.

The Padmanayakas, their officials, ministers, also built and renovated old tanks in their kingdom.

The following are some of the important irrigation works of
Vijayanagara times;

Sl. No.	Name of the Tank/Lake/Canal/ Construction/ Ruler	Period / Year	Location	Source
	<i>Bhukka Raya Samudram</i> ²⁰ 1364A.D.	Ruler Bukka-I Chikka Anantrasa Udaiy Minister	Anantapur	S.I.1 Vol.XVI No. 63
	<i>Porumamilla Tank</i> ²¹	Bhaksara Bhavadura Son of Bukka-I & Governor of Udayagiri Rajya in 1369 A.D(Saka-1291) 1369A.D	Badvel Taluq Kadapa	E.I. Vol.XIV, No.4. Cuddapah District Inscriptions Vol-II, No.11
	<i>Kamalapuram Tank</i> ²²	Devaraya-I 1386 A.D.	Kamalapuram	Kadapa District Inscriptions Vol. II, No.19
	<i>Hindupur Taluq</i> ²³ Ananthapur Dist	Saka 1309 -1388 A.D. Polinayaka son of Maha Nayankaracharya	Hindupur Taluq, Ananthapur Dist	S.I.I. Vol. XVI. No.14
	<i>Hospet Tank Bellary</i> ²⁴ District	Harihara –II, Saka-1319-1398 A.D. Near Prasannanjaneya temple by Ganapati Pandita's two sons Virupaksha Pandita and Vinayaka Pandita	Hospet Bellary District	No. A.R.E 351 of 1935
	<i>Bellary Dist Hospet</i> ²⁵	Devaraya-I Saka 1333-1412 A.D.	Bellary Dist Hospet	A.R.E. No.25 of 1924
	<i>Markapuram Tank</i> ²⁶	Devaraya-II Mallaya Mantri 1441 A.D.	Kurnool	S.I. Vol. XVI. No. 33
	<i>Immadi Narasimharaya Tank</i> ²⁷	Immadi Narasimharaya Saka 1416, 1494 A.D.		Cuddapah District Inscriptions Part-II No. 53&54

	<i>Madakasira Tank</i> ²⁸ District Ananthapur	Saluva Narasimha Raya	Madakasira Taluq Dist.Ananthapur	S.I.I. Vol. IX, Part-II, No, 472
	<i>Nagulapuram Tank</i> ²⁹	Srikrishna Devaraya Saka 1438, 1516 A.D.	Hospet District	S.I.I. Vol. IX, Part-II, No. 504
	<i>Atukuru Tank</i> ³⁰	Naddinadla Appa, Brother-in-law of Saluva Timmarasu 1516 A.D.	Guntur	E.I. Vol.IVI No. 12
	<i>Gopinath Samudra</i> ³¹	Krishnadeva Raya 1518	Guntur	S.I.I. Vol. IV, No. 702, S.I.I. Vol.XVI, No. 121
	<i>Badvel Tank</i> ³²	Srikrishna Devaraya Saka 1448-1526 A.D.	Badvel Taluq Kadapa	A.R.E 35 of 1941-42
	Tank near Gorepalle ³³ Dist. Cuddapah Badvel Taluq	Achutadevarayapuram by Viranna Nayaka in Achyutadeva Raya's period Saka 1460- 1538A.D	<i>Achutadevaraya-</i> <i>puram</i> by Viranna Nayaka	No. 68 of A.R.E. 1912
	Achyutadeva Raya Samudram ³⁴	Salakam Peda Tirumala brother-in-law of King Saka 1452-1530A.D.	<i>Sateenapalli</i> Taluq in Guntur District	No. 544 of A.R.E 1910
	Achyutadeva Raya Samudram ³⁵	Saka 1462-1539 A.D.	<i>Jammalamadugu</i> Taluq Cuddapah District	<i>IAP</i> , Cuddapah District Inscriptions part-10.134
	<i>Kondasamudra and</i> <i>Srimannarayana</i> <i>Samudra</i> ³⁶	Sadashivaraya granted Dasavandha grant to Mahamandalesvara Avubhala Raju in Pedakally Village in Saka 1477-1554 A.D.	<i>Sirvel</i> Taluq Kurnool Dist	S.I.I. Vo. XVI, No. 199

The references found in epigraphs of the Vijayanagara period related to the present study period provide interesting details and get corroborated with the details found in the contemporary literary works and village kaifiyats about the nature of irrigation works, their maintenance, etc.

B) Literary Sources:

During the period under study, due to the liberal patronization of Telugu, Sanskrit, Kannada, Persian, and Arabic scholars' poets by rulers, and sultans and due to the tremendous scholarship of a few rulers like Srikrishnadevaraya, excellent works were written. The liberal patronization extended by the Kakatiya, Velma, Reddi, Vijayanagara, and Qutbshahi rulers inspired the scholars to write many works. Their works contain some useful information about the irrigation facilities of the period.

The contemporary native Telugu literary works also providing very interesting and authentic information related to the present study, i.e., Irrigation works in Medieval Andhradesa. Among the Telugu works of '*Amuktamalyada*'³⁷ of Krishnadevaraya and other works of the Vijayanagara age are giving details about the aims of King Sri Krishnadevaraya towards irrigation works and their Irrigation facilities and the Society's concern towards their maintenance. The foreign travel accounts of Domingo Paes and Abdul Razzak also providing some details. The information or data collected from the epigraphical and literary sources is carefully arranged, analyzed corroborated, and used in the drafting of this thesis. Srikrishnadevaraya in his monumental work '*Amuktamalyada*'

expressed his personal view high lighting the unique importance of the need for improving irrigation works in the following words.

“దేశ సౌభాగ్య మర సిద్ధికిని మూల
మిల యొకింతైన కుంట కాలవల రచించి
నయము పేదకు, అరి, కోరునను నొ
సంగి ప్రబల చేసిన అర్థ ధర్మములు పెరుగు.³⁷”

Desha Sowbhagya Marasiddhikini Moola
Mila Yokinthaina Kunta Kalvala Rachinchi
Nayamu Pedhaku Ari Korunanu Nosangi
Prabhala Chesina Artha Dharmamulu Perugu

The works of Palkuriki Somanatha are very important. Being a poet and pontiff to propagate the ideals of Veera Saiva sect, pronounced by Vira Basava, or more popularly known as Basavesvara, Palkuriki Somanatha, took to “*Dvipada*” “*metrics*” in “*Jana Telugu*” and brought to the fore all the major events, that marked the biography of Basava. The work of Palkuriki Somanatha and ‘*Panditaradhya Charitra*’ dealing with Mallikarjuna Pandita are included. As this propaganda covered more parts of Western Andhra, Palakuruki Somonatha became a pioneer in this direction. Ekamranatha's *Pratapa Charitramu* also gives some details about the general economic condition of the Kakatiya age. Agastya Vidyanatha's *Prataparudra Yasobhushanamu* (Sanskrit), popularly called ‘*Prataparudiryam*’, is providing some details about the duties of a king. Vinukonda Vallabha Raya (*Kreedhabhiramam*), Seenatha (*Haravilasam*), and

Srikrishnadeva Raya (*Amukthamalyada*) wrote the book, which contains the valuable information about the irrigation works and their importance.

The below-given table provides an overall idea of the literary works of the age in which direct or indirect information is found about the nature of irrigation works and their significance. They also refer to the religious merit attached to these works.

Primary Sources (Native Works)

S.No	Name of the Work	Author	Remarks
1	<i>Nitisara Mukthavali</i>	<i>Baddena</i> Chola Chief (Telugu)	It describes the duties of King
2	<i>Keyura Bahucharitam</i> (Telugu)	<i>Manchana</i>	Telugu Poem (Importance of Saptasantanas)
3	<i>Hara Vilasam</i> (Telugu)	<i>Sreenatha</i>	It describes the rivulets, Kaluvas
4	<i>Simshasandvatrimshika</i> (Telugu)	<i>Koravi Goparaju</i>	It refers to Water pulling Ratnalu
5	<i>Bhimeshwara Puranam</i> (Telugu)	<i>Sreenatha</i>	Canals dug by officials to feed farmlands was described
6	Account of Abdur Razzak	<i>Razzak</i> Persian Ambassador	Major R. H. <i>India in the 15th Century</i> , pp-18-20
7	Account of Domingo Paes	<i>Domingo Paes</i>	He was in the court of Srikrishnadeva Raya. He described in detail the construction of Nagulapuram tank king Krishnaraya at Hospet.
8	Account of Barbosa Durte		M.L. Dames the Book of Vol-I, pp.81, 98 & 99-104

In *Haravilasam* poet *Sreenatha* described three types of irrigation works namely wells, rivers, river channels, and tanks or reservoirs.³⁸

“.....పల్లములు చిక్కని కొయ్యలఁ ద్రవ్వి విత్తుదుర్
గోరిక యారటంబుంగఁ గొండల కాలువ అడ్డకట్టుదుర్
నీరికి.....”

" ఏలేటి మేటి కాలువలవలన నదీమాతృకంబులగు పంటపలాత”³⁹

“...ఆరేడు సారణీ
సలిల వివర్ధమాన బహుసస్య సమాకుల మగ్రహారమై.....”⁴⁰.

In another Telugu work, *Simhasanadvatramsika*,⁴¹ Koravi Goparaju described the list of various sources of irrigation and appliances used to lift the water from the lower to the higher level. He mentioned Kaluvalu, payalu (branches) and ratnamulu (water wheels), etc.,

“ఈయెడఁ గర్మభూమియగు డెవ్వరికైనను. బుద్ధి నేర్పునన్
జేయఁగలేదు కాలవ కఁజేసిన నేతము లెత్తి కాల్యలుం
బాయలఁ గోళ్ళు-నూతులును బావులు రాట్నములన్ జలార్థమై
చేయఁగ నాయెఁగాక మరీ చేయని వాఁడని తామే పుట్టునే.”

The construction of a tank was considered by people and rulers as one of the most pious or holy acts. The construction of a tank is classed among the Saptasantanas, or seven kinds of progeny that keep one's name forever.⁴²

" నందనుఁడు వనమ్ము న వర్ధిల్లు నిధి సుర
గృహము చెఱువు మేలికృతి యనంగ
జగతి వెలయు సప్తసంతానములు వినఁ
బుణ్యములు యశంబుఁ బొందవచ్చు ?.

Poet Sreenatha in his work Bheemeshwarapuram also referred to the existence of artificial canals dug out in the Reddi age by rulers and officials to carry the water from the sandy beds of rivers and rivulets to form land. He mentioned the use of “*Kroppumgaaliyalu*” (dugout canal) by private individuals to acquire merit for themselves, or for their nearest relatives.⁴³

The epigraphs of the Vijayanagara Kings refer to a large number of tanks, lakes, and reservoirs built in Andhradesa. These inscriptions found at provide a wealth of very useful information about tanks, lakes, canals of their age. These epigraphs are in Telugu and Sanskrit languages.

In the Contemporary epigraphical and literary sources, many references are also mentioned about the great concessions sanctioned by kings, their officials, and Temple authorities to promote irrigation works to concerned stone cutters, craftsmen, peasants, and other concerned people to boost the agrarian economy and to increase the source of income to Imperial treasury. A large number of references about special provisions such as 'Dasabandhamanyas' total tax exemption in case of famine or drought etc were also referred to in the epigraphs and Kafiyats. The '*Kautalam sima*' incident of Achyutraya's period by the migration of local peasants to the Bahmani Kingdom is a clear example.

C. Kaifiyats

A unique type of Telugu source material, popularly known as “Kaifiyats”, prepared by village officers appointed by Col.Mackenzie, is also providing very useful details about irrigation works of the Vijayanagara age. The Kaifiyats of Guntur, Prakasham, Nellore, Cuddapah, Visakhapatnam West Godavari, and Vijayanagaram published by the Andhra Pradesh State Archives Research Institute, Tarnaka (2005-2010), also provide interesting details about the irrigation works of the Vijayanagara period and the steps taken by rulers, provincial Governors and local temple authorities for their maintenance. According to *Kaifiyat of Kanala*, we come to know that Nagamma, the queen mother of Srikrishnadevaraya, constructed a tank at a small village on her return journey from Tirupati. She granted the village ‘*Kanala*’ as an Agrahara (tax-free village) to Brahmins, renaming it Krishnarayasamudram, after her son.⁴⁴

The importance of the old village administrative records is recognized by scholars to study the history of the Medieval period was perceived by Colonel, Mackenzie. His clerks visited the districts and collected Kaviles or *Danda-Kaviles* which were in the possession of Karnams (Village Accountants). Much of the information contained in these Kaviles proved useless, so digests of the useful parts were prepared. These digests are known as ‘*Kalifiyats*’.

To illustrate the point, the Kaifiyats of Kurnool and Bellary give an account of tanks and large lakes, termed a ‘seas’, in the Anantapuram District. The Kaifiyats of the Ceded Districts in ‘*kovil*’ Taluk and ‘*Darapuram*’ in Coimbatore province, yield information about the works of the Rayas and the cultivation of the land also. The Kaifiyats of ‘Uppaturu’, ‘Kanala’, ‘Koikuntla Taluk’,

'Paidikalaluva' and 'Azampura' not only refer to the excavation of tanks and building of canals but also to their maintenance.

D. Foreign Travel Accounts:

During the period of understudy, several foreign traders, travelers, and Ambassadors visited Andhradesa. They include Marcopolo (Venietian merchant), Nicolo-de -Conti, Abdur- Razzaq (Persian), Vartheme, Nikitin (Russian), Duarte Barbosa, Dominigo Paes (Portuguese), Fernao -Nuniz (Portuguese), Jean- Baptist Tavernior, Monsier Thevnot, and Francois Berneir were providing valuable information related to the agriculture, irrigation works of the period. They left many interesting details about the contemporary political, socio-economic, religious, and cultural conditions of the people of their time among them. They also recorded the general state of agriculture and irrigation facilities and the condition of peasants in the contemporary period. The detailed account of Domingo Paes regarding the construction of the "Nagalapuram" tank by SrikrishnadevaRaya near 'Hampi' in memory of his late mother "Nagulamba" is provides interesting facts about the labour, with the support of Portuguese engineers engaged in the work⁴⁵.

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 37. *Amuktamalyada*, Canto, IV, V,236.
 38. *Haravilasam*, II, IX. p. 233.
 39. *Bheemeshwarapuram*, II, Pr. 55.
 40. *Bheemeshwarapuram*, I, v. 49.
 41. *Simhasanadvatramsika*, II, VI.V.70.
 42. *Keyura Bahucharitam*, I. V. 8.
 43. *S.I.I.* Vol-V.No.37
 44. *Local Record (Kaifiyat of Kanala) Mackenzie-Manuscripts*, edited by

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The rise of Kakatiyas as a Sovereign Power in Medieval Andhradesa was considered by historians as an historic event. Historians expressed different opinions about the origin of the early Kakatiyas, their original home, and their caste. There are two main opinions in this regard, one advocating that Kakatiyas were originally the residents of a village named *Kakatipura*. The kings bore the title “*KakatipuraVallabha*”. So, the term ‘*Kakatiya*’ is derived from their dynastic name from the place of their original home. According to some scholars that the ‘*Kakatipura*’ was another name for ‘*Orugallu*’ itself. Another group of scholars advocated that the Kaktiyas were the worshippers of a local goddess. *Kakati* (*Durga* or Jain goddess), and therefore came to be known as the Kakatiyas. The presence of goddess ‘*Kakati*’ was mentioned in the work *Kiridabhiramam* by VinukondaVallabharaya as “*Kakatamma*”.

Eminent historians like M. Rama Rao and P.V.Parabrahma Sastry tried to build up the genealogy of the Kakatiyas based on two inscriptions. First, the *Mangallugrant*¹ (956A.D.) of ‘*Danarnava*’ of Eastern Chalukyan dynasty, which mentioned the names of *GundiyaRashtrakuta*, *EriyaRashtrakuta*, *Betiya* and *KakartyaGundyana*, as the early members of the Kakatiya family. The *Bayyaram* tank inscription²(1219 A.D.) of *the Mailamba* sister of Ganapatideva and wife of Natavadi Rudra, which gives the genealogy of the Kakatiya dynasty of eleven generations beginning from Venna toGanapatideva. According to P.V.Parabrahma Sastry that the Kakatiyas belonged to Rastrakuta stock hailing from *the Durjaya* family of the *Sudra* caste. Scholars has divided theruling period of Kakatiyas into two categories i.e., Subordinate Kakatiyas (1000-1163A.D.) and SoverignKakatiyas (1163-1323A.D. A brief history of the Subordinate Kakatiyasand

Sovereign Kakatiyasis presented in the following pages to provide an overall idea about the history of Kakatiyas.

A BRIEF HISTORY OF SUBORDINATE KAKATIYAS (1000-1162A.D.)

According to the *Bayyaram* inscription, 'Venna' was the earliest member of the Kakatiya family. His son grandson and great-grandson *Gunda-I*, *Gunda-II* and *Gunda-III* respectively followed him and they served as commanders in the army of Rashtrakutas Era, the son of Gunda-I was appointed as administrator of 'Koravi' (Mahabubabad district), region by Rashtrakuta King Era was succeeded by Betiya. 'Betiya' was succeeded by his son Gunda-IV, who was also known as 'KakartyaGundyana. Tailapa-II, over threw the rule of Rashtrakutas and established the kingdom of Kalyan Chalukyas in 973A.D. Taking advantage of the situation 'KakartyaGundyana' proclaimed his independence at 'Koravi' but it was opposed by the MudigondaChalukyas, the original rulers of Koravi, and sought the help of Tailapa-II, the Kalyani Chalukyan ruler. Tailapa sent his general 'ViriyalaErra', in the battle that followed, KakartyaGundyana was killed. 'Kamavasani' the wife of 'ViriyalaErra' and sister of 'KakartyaGundyana', persuaded her husband and succeeded in obtaining '*AnumakondaVishaya*' for Beta-1 (Garuda Beta), the son of KakartyaGundyana.

Beta-I (1000-1052A.D.) ruled '*HanamkondaVishaya*' as a subordinate Chief of Kalyani Chalukyas. Beta-I was succeeded by his son Prola (1052-1076 A.D.). Prola-I was succeeded by Beta-II (1076-1108A.D.). Beta-II was succeeded by his son Durgaraja (1108-1116 A.D.).He ruled for a short period of six years.Prola-II (1116-1157A.D.) was succeeded by his elder brother '*Durgaraja*'. Prola-II lost his life in a battle with '*Chododaya*'King of the '*Kota*' family.

SOVEREIGN KAKATIYA RULERS (1158-1323A.D.)

(1) RUDRADEVA (1158-1195A.D.)

Rudradeva, the eldest son of 'Prola-II' succeeded to the throne, in the year 1158A.D. He was a great warrior. He assumed the title '*DayagajaKesari*' and issued coins bearing this title. He was the first king of the Kakatiya dynasty to declare independence from the Chalukyas of Kalyani.

The 'Anumakonda' Thousand Pillar Inscription³ of Rudradeva dated the year 1162 A.D. describes the victories of Rudradeva. This record was written by the poet 'Atchitendra'. According to the information given in the epigraph Rudradeva defeated the neighboring local chiefs, 'Dommaraju' of 'Naganur' (Karimnagar), Medaraja-II of Polavasa (Jagtiyal), and 'Mailagadeva' of 'Kalachuri' dynasty. Rudradeva appointed his able general and Minister '*Vellaki Gangadhara*' as the governor of the entire '*Sabbinadu*' region with headquarters at 'Naganur'. In the south, he defeated the Telugu Choda Kings- '*Bhima*', '*Gokarna*', '*Chododaya*' and '*Chalukyan King Tailapa-III*'. His general '*Ivangula Brahmireddi*' led the Kakatiya armies against 'Velanadu Chola ruler (Vengi) '*Gonkaraja-III*' and occupied up to '*Draksharamam*'. Rudradeva also defeated the rulers of '*Vardhamanapura*'.

MAHADEVA (1195-119A.D.)

Rudradeva left no heirs of his own, he was succeeded by his younger brother Mahadeva. He ruled for a short period of only three years. Mahadeva invaded the 'Yadava' Kingdom, laid siege of their capital city 'Devagiri', but he was killed on the battlefield by 'Jaitrapala' the Yadava King.

GANAPATIDEVA (1199-1262A.D.)

Ganapatideva was the greatest ruler among the Kakatiyas. The glory of the Kakatiya dynasty reached its zenith during the reign of Ganapatideva. He accompanied his father Mahadeva into the battle against Yadava king 'Jaitrapala'. He was made captive. It is evident from the 'Palampet inscription' (Ramappa temple) that many feudatories rose in revolt against Kakatiya power. 'Recharla Rudra', the loyal and capable general of the King suppressed all the revolts. He assumed the title "*Kakatiya Rajya Sthapanacharya*" (The founder of the Kakatiya Kingdom). Young, Ganapatideva lived as a captive at Devagiri for eleven months. He was set free by the Yadava ruler, due to the prevailing political situation in 'Andhradesa'. The capable and trusted General of late Rudradeva, 'Recherla Rudra' with his wisdom got released his young master and installed him on the throne of 'Warangal' and managed the State affairs. The earliest inscription of Ganapatideva as the king of the Kakatiya Kingdom was found at '*Manthena*' in Karimnagar District. It is dated 26th December, 1199A.D.⁴

Ganapatideva's rule of more than six decades has heralded a new era not only in the history of the Kakatiya dynasty but in the history of Medieval Andhradesa and South India. Under his able rule, the political authority of Kakatiyas was well established over 'Coastal Andhra'. Telugu people were united for the first time. His army won many battles. During

his last days, he suffered a defeat in the battle of '*Mutthukur*' (Nellore)' (1262-63A.D.) in the hands of the Pandyan army and retired from active politics.

RUDRAMADEVI (1263-1289A.D.)

In the year 1263 A.D. Rudramadevi daughter of Ganapatideva ascended the throne of Warangal. She assumed the title "Rudramadeva Maharaja". Rudramadevi was one of the greatest rulers of the Kakatiya dynasty. The Venetian traveler 'Marco Polo'⁵ was greatly impressed by her active and able administration. She used to dress like a prince and acquired mastery in horse-riding, archery, sword-fight, military craft, etc. She ruled the Kakatiya Kingdom between 1263-1289 A.D. According to the '*Chandupplta*' epigraph⁶ dated 1289 A.D., she lost her life in her attempt to crush the rebellion of her Viceroy 'Kayastha Ambadeva' in the year 1289 A.D.

PRATAPARUDRA (1289 – 1323 A.D.)

Prataparudra-II was the last ruler of the Kakatiya dynasty. He succeeded his grandmother Rudramadevi, he was the son of her eldest daughter, '*Mummadamma*'. He was well trained in the statecraft by his grandmother and had also been associated with her in the administration of the State. Prataparudra-II crushed the revolt of Kayastha Chief 'Ambadeva'. His generals played a key role in his success. During his reign, the South Indian Hindu Kingdoms became a target to the haughty attacks of the Delhi Sultanate. The 'Yadava' Kingdom of Devagiri, the 'Hoyasala' Kingdom of Dwarasamudra, 'Kakatiya' Kingdom of Orugallu, and 'Padyan' Kingdom of Madurai was attacked by Delhi Sultanate forces. Finally, the Kakatiya Kingdom of Prataparudra-II was annexed in to Delhi Sultanate in the year 1323 A.D. Prataparudra-II became a captive along with his few trusted officials. They were taken to Delhi as captives. But Prataparudra-II committed suicide on the way to

Delhi by jumping into the river ‘*Narmada*’⁷ on the way to Delhi. The same episode was recorded in the “*Kaluva cheruvu*” grant, dated 1423A.D., of Reddi Queen “*Anithalli*”.⁸ Thus, the glorious era of the first Telugu Kingdom of Kakatiyas of Orugallu or Warangal ended unexpectedly due to the success of the Delhi Sultanate attacks. The ‘*Orugallu*’ was named as Sultanpur.

IRRIGATIONAL WORKS UNDER KAKATIYAS

The age of Kakatiyas was known for many glorious achievements, in different fields. They provided Political stability, popular administration and introduced several public welfare schemes. They did great service to the culture of Andhra. Their activities made the Kakatiya rulers earn a highly respectable place in the history of Medieval Andhradesa. Kakatiyas were the benevolent rulers and have built many tanks in Andhradesa. The economy of the Kakatiya period depended mainly on agriculture. The trade, commerce, and industry were also flourishing and brought huge revenue to the state. The Kakatiyas concentrated on irrigational facilities like the excavation of tanks or lakes and canals to save, store and utilize rainwater to produce water for agricultural fields. As the result, agriculture production increased during their period. The construction of tanks also assumed a religious favor as the Hindu texts consider it as a holy exercise. The excavation of the tank was regarded as an act of charity and one of the seven meritorious acts called "*Saptasantanas*."

The Kakatiya rulers paid much attention to the development of agriculture. The Kakatiya rulers, their officials, rich people of their kingdom have shown keen interest in the construction and maintenance of irrigation works. They brought large tracts of uncultivable lands under cultivation by constructing tanks, wells, and canals. The kings

encouraged new settlements by clearing forests. They realized that due to a lack of suitable irrigational facilities, a large portion of this region's dry and fertile land was left uncultivated. They also devised a method of capturing major streams by building small and large tanks at strategic locations along their path to create large reservoirs with enough water to irrigate wide swaths of land. It was a technique by itself in those days to build good tanks. It was a technique by itself in those days to build good tanks.⁹ 'GolusuCheruvulu' (a chain of Tanks) as known in the local area, a chain of tanks was constructed by Kakatiyas in the Telangana region.

The 'Karimnagar' epigraph¹⁰ from Rudra Deva's minister "Gangadhara", the "Ganapesvaram"¹¹, and the epigraph of Ganapatideva describe the importance of the act of construction of a tank, well, or canal. Even though the age of Kakatiyas did not enjoy a separate department to look after the needs of supplying water to agriculture in the traditional form, the king and society accepted the responsibility in true spirit. During the reign of early Kakatiya chiefs, a few tanks were constructed in and around Anumakonda, Koravi region. The Kakatiyas made all efforts to convert the dry area of their kingdom into a fertile agricultural area by constructing many irrigational works.

The following description of some of these excellent tanks reveals the care taken by Kakatiya rulers and society to enhance irrigation facilities in order to protect peasant interests in particular and state revenue in general.

RUDRADEVA – 'UDAYASAMUDRAM' (1160 A.D.)

The Thousand Pillar Temple inscription¹² of Rudradeva dated 1163 A.D., gives historic information about the declaration of Sovereign power by him. It also gives a detailed account of Rudra's military achievement. In the South, he got victories over

‘Bhima Chododaya’ and ‘Tailapa’. After his defeat, Bhima took asylum at Udaya Choda’s fort at ‘Kundur’. Even though the fort was surrounded by thick forest, Rudra chased Bhima. He smashed the forest and defeated Udaya Choda and Bhima and destroyed the fort. At this place, he constructed an enormous and wonderful tank. The famous ‘*Udaya-Samudram*’ near ‘*Panugallu*’ has its origin during the time of ‘*Udayana Chola Maharaja*’, the ‘*Kanduri Chola*’ Chief who was subdued by Kakati Rudradeva sometime about 1160 A.D. It is said in the Thousand Pillared temple inscription of Kakati Rudra, that Rudra himself got the tank excavated in Udaya Cholas town, e.i., ‘*Panugallu*’.

During the rule of Kakatiyas of Warangal, many irrigational works were built in Andhradesa. Here an attempt is made to provide a brief account of the selected irrigation works of Kakatiya period and their present status.

1.PAKHAL LAKE

The lake was constructed during the Kakatiya period and is an example of the magnificent irrigation works constructed by the Kakatiya rulers. Pakhal Lake is famous in the Telangana region. It is located in the present Khanapur revenue mandal of Narsampet division of Warangal District and was built by Ganapatideva’s official “Jagadalu Mummadi”, son of Ganapatideva’s minister *Bayyana Nayaka* and "*Bachamamba*"¹³.

Pakhal lake served the needs of the peasants of that region, even today it is in use and catering the needs of the farmers of this region. This wonderful irrigation work enjoys great engineering skill. The capacity of the lake was kept about 2 times the yield. The catchment of the stream u/s of the lake is 272 sq. km. The total catchment is completely in forest area and there is no intercepted catchment for the Pakhal lake.



PAKHAL LAKE -KHANAPUR

The submersion area for the lake is 2175 hectares. The dead storage of the lake below the silt level of the sluice is 4.34 Mc.ft and MWL is +252.92 and 254.83 m respectively. The length of the earthen dam is 1370 m. the total registered ayacut under the project is 18,913 acres (7920 ha). But about 22,500 acres are being under cultivation. There are two head sluices whose still levels are +243.71m and +245.76 respectively. River sluices are also provided in the earthen dam to draw water into the stream whenever necessary. In the system, weirs are constructed in the stream to collect regenerated flows from the u/s command and from there left and right-side canals are excavated to feed the ayacut below that point. This will facilitate to improve the water use efficiency as there will not be any loss of water due to excess use by the head reaches as the same being collected at the d/s weirs. This will solve the tail end problems and hence minimize the conflicts among the farmers. This system is not there in any minor irrigation

tanks. The farmers are growing paddy crops for Kharif and Rabi seasons. It is one of the primary sources of water supply today to peasants and their agricultural fields.

2. RamappaLake:

Ramappa Temple in the Venkatapur revenue mandal of Mulugu District is known for its wonderful architecture. According to the Ramappa Temple epigraph¹⁴, Ganapatideva's general, Recharla Rudrasenani, in the year 1213 A.D., also built a big lake here. At present, this lake is also catering to the needs of farmers in this region. During the period of the last Nizam, Mir Osman-Alikhan, in the year 1919 A.D., the Nizam government, under the visionary engineer, Ali-Nawaj-jung, renovated it. At present, this waterbody is supplying water to the farmlands of villages such as 'Venkatapuram', 'Palampet', 'Gunadapally', 'Ellareddypally', 'Dharmaraopeta', and 'Nallaguttapally'.



RAMAPPA LAKE-PALAMPETA

The present capacity of the Ramappa Lake is 2.912 TMC and whereas the total yield computed from the catchment is only 1.12 TMC. Hence the capacity of the lake was designed for more than 2.5 times the yield at the site. The capacity of the lake at MWL is 5.401 TMC. Because of this reason they have not provided surplus using arrangements for the lake. But after the formation of Andhra Pradesh, the Irrigation Department has constructed a 36.60 m surplus weir for the lake with a maximum flood discharge of 12,900 cusecs. The FRL, MWL, and TBL provided are +202.95 +205.40 and +209.37 m respectively. The top width of the bund is 6.10 m. the length of the earthen dam is 600m connecting a chain of hills. The total ayacut under the project is 5280 acres (2097 ha) irrigating 5 villages. In addition to registered ayacut further area of 1577 acres is being irrigated. There are two head regulators namely Tower sluice and Tiger sluice. The sluices are designed for 3 levels to draw water at different elevations. There are five channels under these two head regulators. The farmers are growing paddy crops under this project for Kharif and Rabi seasons. Because of the carry-over capacity of the lake, the ayacut never suffered during drought years also. At present 10 villages (*Venkatapuram, Palampet, Guntupally, Ellareddy Pally, Nallaguttapally, Dharma Rao Peta*, etc., are getting water from Ramappa lake for Agricultural fields.¹⁵

3. 'Ghanpur' Tank

It is another important irrigation work built during the Kakatiya age. It is located very close to Ramappa tank. At present, the water from Ghanpur tank is catering to the needs of peasants by covering around 350 acres of agricultural fields. In the year 1909 A.D., it was renovated by the department of public works. (VI Nizam, Mir-Mahaboob-Alikhan).

The tank was restored to the present condition in the year AD 1909 by the Nizams public works department. Its earthen bund is 7300 feet long and 48 feet in height. The tank is planned and executed in the sub-basin stream of Munair and the basin of Godavari River.¹⁶

4. The '*Bayyaram*' Tank



This is another magnificent tank constructed during the reign of KakatiGanapatideva by his sister Mailamba, wife of Natavadi Rudra. This tank is situated at Bayyaram village, the Mandal headquarters of the same name in the erstwhile Khammam district. An epigraph traced near the tank of Ganapatideva's reign describes this solid irrigation work. It still provides water to the fields of Dharmakirtipuravillage. TheDharmakirtipura seems to be no other than the modern Dharmapura near Bayyaram¹⁷.

5. '*Laknavaram*' Tank

Under the dynamic and visionary administration of Ganapatideva, the laknavaram tank was built in the year 1213 A.D. Laknavaram Lake is situated across the Laknavaram stream near the 'Chalvai' village of the 'Govindaroapet' Mandal of Mulugu District at a distance of 70 km from Warangal. This tank was also restored to its present status in the year 1909 by the Public Works Department of the Nizam. The Laknavaram tank was constructed across the "Laknavaramvagu" and the surplus water goes by the name of the Laknavaram river, which joins directly the river Godavari. As of today, this irrigation work supplies water to the fields of Warangal and Khammam areas. It is built in a pivotal spot to store the overflow, Godavari. The catchment of the stream is 268.07 Sq.Km. The total catchment falls in a thick forest area and this is the first irrigation source in the stream. There is no intercepted catchment of the lake. The yield available for the source is 2.272 TMC and the capacity of the lake is 2.135 TMC. The lake is surplus using every. Year. The Laknavaram lake is naturally formed with a connected chain of hills. The length of the earthen bund is 600 m with top width. Thereof 6.10m. There are a couple of islands in the lake which gives scenic beauty to the source. Two Tower Sluices are having three vents at three levels. There are four channels namely, *Narsimhula Channel* (sill+80365m), *Rangapur Channel* (sill+77.565m), *Kota Channel* (+69.930m), and *Srirampathy channel* (+80.610m) to draw water to irrigate an ayacut of 8700 acres in 7 villages. The farmers grow paddy crops Kharif and Rabi seasons. The sill of the sluices is so located, the total water in the lake can be drawn. The full tank level (FTL) is +97.235m and MWL is (+99.065m). The FOF weir is constructed to discharge 21,656 cusecs and also there is natural masonry by a wash of 26m length with a crest level of +97.535m. The stream below the lake is called *JampannaVagu*. The famous shrine *Sammakka* and *Sarakka* is located on the banks of *JampanaVagu*. Every two (even) years the famous Jatara will be organized here and 200 mc ft of water is to be kept and released from 'Laknavaram' Lake to this Jatara to facilitate the pilgrims.

Mailamba, sister of Ganapatideva, built the Bayyaram Tank. She was the wife of prominent official Natavadi Rudra. Similarly, another sister of Ganapatideva, Kundamamba, built a tank named Kundasamudram. The Kakatiya rulers, members of the royal family, subordinate chiefs, and rich people built several tanks and canals during these times. The tanks were constructed like a chain link (*GolusukattuCheruvulu*). The surplus water from every tank goes to the lower tank. Among the notable water works during the Kakatiyas are ‘*ChaundaSamudram*’ (by MalyalaChaunda), ‘*Nama Samudram*’ (by Namireddi) KesariSamudram (Prola-1), *Rudra Samudram* (by Rudradeva), ‘Pakhala tank’ (by JagadalaMummadi). *Laknavaram* and *Ghanpur* tanks (by Ganapatideva), *Bayyamba* and Dharma Sagar (by Mailamba), *KundaSamudram* (by Kundamamba), etc are very prominent tanks built by Kakatiya rulers, Women of Royal family, and higher officials.

‘*Uta Kaluvas*’:

Epigraphs and a few literary works of the Kakatiya period contain references to *Uta Kaluvas*. In the Karimnagar epigraphs, *GonuguKaluva*¹⁸ is mentioned. Many Such references are found in the epigraphs of Kakatiya chiefs.

CHAIN LINK TANK SYSTEM [*GOLUSU KATTU CHERUVULU* AND ITS UNIQUE FEATURES

The Kakatiyas constructed a series of tanks on the streams to store the rainwater in different locations for use of the people for their domestic requirements, drinking, cattle feeding as well as agriculture. They have constructed several check dams on the streams which are a feeder to downstream tanks for storage of water as well as the increase of groundwater table and also to arrest the silt. The 'Chain Link' Tank system is observed mainly in the Kakatiya age. The ‘Chain link’ system of tanks is for saving every drop of

water in that particular area. The tanks are in intact condition as they are in series. Every tank surplus water goes to the lower tank and this will continue for all tanks.

The series of tanks resemble a "Garland" and is well known as "Garlanding of Tanks" and in Telugu, it was called '*GolusukattuCheruvulu*' even though there is no specific reference in epigraphs about the term '*GolusuCheruvu*', the term became very popular in historical writing. The concept implies the technology of flow irrigation and maximum utilization and storage of water. This resulted in the availability of water even in shallow open wells. The tanks are constructed like Chain Links. For that reason, the system is called a chain-link tank. The Chain ink Tank System of '*Inole*', '*Pathini*', '*Punnole*', and '*Kakiralapalli*' villages of '*Wardhannapet*' Mandal Warangal District are shown in the above topographical sheet.

The engineering skill exhibited by the masons (upparas) or of the age in the construction of '*GolusuCheruvulu*' is unique. In sluice construction, they could carefully arrange the stones and fed the gaps between stores with a mixture of lead, lime, jaggery, etc., not allowing any leakage and wastage of water. The dedication to the construction of quality can be perceived from the fact that even today. Water is released through the same sluices. Even in those days of no modern technology about 50-60 ft. high earthen bunds were laid and consolidated with the help of stone-rollers elephants, horses, and buffaloes. 800yrs of vagaries of time also could not affect the quality of their construction. Under every tank has particular ayacut land for irrigation facility. These tanks' water was used for agriculture and shrinking. These tanks were constructed based on food for work, duly involving the people for the exchange of food grains. With these tanks Kakatiya kings

provided direct employment for the people in every village for years together, this is the evidence of the tanks in every village.

- Its primary aim is to save the Rainwater to a maximum extent.
- The tanks are in intact condition as they are in series.
- Every tank surplus water goes to the lower tank and this will continue for all tanks. Every tank has a particular ayacut for irrigation facility. The water stored in *GolusuCheruvulu* was for irrigation purposes and also for domestic use.
- The Medieval rulers of Andhradesa succeeded in generating a new spirit in the society to construct, preserve and maintain the irrigation works.
- Development of pesi-culture in the tank or lake reservoir for the sustenance of the villagers who depended on fishing.

TANKS DONATED TO TEMPLES

During the period, Understudy Temple construction activity picked up momentum. The king's officials, rich people, and guilds donated temples with a tank or a canal. The water from such tanks was used for agriculture land belonging to the temple and daily usage in the temple.

CONSTRUCTION OF CANALS TO CARRY WATER

During the Kakatiya period, we can notice several references are there about the digging and repair of canals.

Canals dug from rivers

Canals dug from tanks

Uta-kaluvu or spring channels – *yeru, vaagu, cheruvu*

GolusuKattuCheruvulu (Canals connecting two tanks or more)

The canal dug for irrigation purposes is also named in different ways. Some of the canals were called after the name of the river which formed the source for draining it. The best example for this is the '*MusetiKaluva*' i.e., the canal which originates from the river '*Musi*'. '*Aleti*' canal dug along the river '*Aleru*' near Kolanupaka.¹⁹In sources references are there about which are named after a village or a town. The *RavipatiKaluva*, *ChintalaKaluva* etc., are the examples. The canals named after the epithets of the rulers and also after individual names are also noticed during this period. The '*Proli Reddy Kaluva*' was named after the person who caused the excavation of the canal. An epigraph from Kolanupaka dated 1289 A.D. is describing the construction of canals like "Vamsavardhana *Kaluva* in '*Kollipaka*'. References about *Kuchineni Kaluva*, *RavipatiKaluva*, *Bommakanti kaluva*, *Chintala kaluva* are also mentioned in the epigraphs of Kakatiyas.²⁰

During the age of Kakatiyas, in various parts of the kingdom, a large number of canals were built by kings, ministers, and generals. Among them, *Nelakondapally Kaluva*, *LembakaKaluva*, *TadlapakaKaluva*, etc., are referred to in sources. Inscriptions found at *Nelakondapalli*, *Rajampet* (Cuddapah), *Amrabad* (Mahaboobnagar), *Garla* (Khammam) mention *Raya SahasramallaKaluva*, *Utakaluva*, and *UtumKaluva*, etc.,

Excavation of Wells:

The study of source material collected reveals the extensive irrigation works like tanks, canals, and wells undertaken by the Kakatiyas, their subordinates (*Samantas*), ministers,

officers, religious heads, and wealthy people. Though taking up irrigation works like tanks was considered religious merit, the real and fundamental reasons behind the excavation of irrigation works on such a large scale were to provide irrigational facilities to improve agricultural production and to bring fresh lands under cultivation.

The Physio geographical features of the Telangana region which formed the core zone of the Kakatiya power and the lack of water for irrigation in the region seem to have forced the rulers and the people alike to plan and construct irrigational projects on such a large scale some of which are in use even to this day. The statement made by '*Malyalakata*' in his Kondaparti inscription dated A.D. 1240 that the earth was shattered into pieces by constructing ponds, wells, and big tanks may not be a hyperbole if all the above constructions are taken into consideration.

Maintenance and Repair

The Kakatiya rulers also took great care and measures to maintain and repair the irrigation works. The main items of maintenance include annual bund repairs, removal of silt deposits on the bed, and canal and sluice repairs. The contemporary inscriptions and literature are providing very interesting details about the measures taken by rulers to maintain the irrigational works. They also appointed special employees to take care of these irrigational works. Those individuals are given "*Dasavandha*" income, which is taxed on cultivators at the rate of one 'Kuncha' per each 'putti' of gross produce.²¹

Some of these tanks were constructed under the "*Dasha Bandha Enamu*" system, under this farmer contributed one-tenth of their produce for maintenance and repairs. Most of the tanks built during the Kakatiya period were still in a flourishing condition and played a crucial role in the agrarian economy of the region.

As a result, private parties were entrusted with the construction and maintenance of tanks as a form of remuneration for the work. Water users' associations of the present day were not new to them. By introducing a new system, "Dashabandha Eenamu", they extracted the duties from tanks for maintenance and repairs and also collected agricultural tax through the formers themselves.

THE CHIEF PRINCIPLES FOLLOWED BY THE KAKATIYAS IN THE CONSTRUCTION IRRIGATION OF WORKS

The following principles were adopted during the Kakatiya period for sustaining most of the irrigation works even today after 800 years. The '*Porumamillaepigraph*'²² is providing useful information about the principles to be followed in the construction of a tank.

- Firstly, most of the tanks/lakes were constructed just below the forest or thickly vegetation area, and thus the yield from the catchment of the tank is more effective and also a selection of the site was at right places resulting in less sediment carried from the streams to the tanks. Further, most of the lakes that were constructed are natural lakes, connecting the series of hillocks and thus having less bund length.
- They preferred to construct tanks/*Samudras* of big size. So that there will not be any shortage of water for one or two drought years.
- The silt levels of the head sluices were kept at different elevations to draw maximum water from the reservoir and for supplying water to different canals to bring the higher command. One of the sluices is kept at the lowest level of the tank so that it can draw water along with silt.

- Constructing of weirs in the same stream below the tank for collecting the regenerated flows from the command and excavation of canals to supply water to the tail end reaches was adopted. The principle raises more efficiency in water management solving the problems of tail and farmers.
- Construction of diversion channels for diverting water from the streams to feed the irrigation tanks in addition to its yield from the self-catchment and transferring the water from one basin to another sub-basin was adopted.
- Construction of chain of tanks to facilitate the surplus flows from u/s tank to dis tanks. This system also facilities to collect the regenerated flows from the u/s command to supply water to d/s tanks and its command, so that water use efficiency will be high in the sub-basin.
- Maintenance of the irrigation works was taken up by the village community regularly duly contributing the necessary funds required. Development of pesi-culture in the tank/ lake reservoir for the sustenance of the villagers who depended on fishing. Because of the scientific approach adopted by the rulers of the Kakatiya dynasty, most of the irrigation works that were constructed 800 years back are still in existence with the efficiency for which they were designed.

Thus, the Kakatiyas handed over a very encouraging irrigation heritage (policy) to their successors i.e., Velama, Reddi, Vijayanagara, and Qutbshahis rulers who ruled Andhradesa between 1323-1687 A.D. We must appreciate the skill of workers for their dedication and technical knowledge. Not only tanks, the Kakatiyas got lakes and wells also dug and supplied instruments to extract water and supplied water to the fields. They stipulated

conditions that crops must be planned during the two periods of *Rabi* and *Khariif*, depending upon water availability three crops annually were also planned.

Involvement of women in the construction of Tanks

In the history of Andhradesa, the regional period of Kakatiyas is known for its greater achievements in irrigation. Several inscriptions reveal the fact that the Kakatiya rulers made a greater endeavor to bring new lands into use to encourage agriculture. The development of irrigation followed by the growth in agricultural and horticultural output led to the development of industry, trade, and commerce. The Kakatiya rulers, their ministers, and philanthropists of the day paid much attention to the development of irrigation. The women were also involved in the construction of Tanks. The middle-class women and women belonging to royal and noble families were involved in the construction of Tanks.

The middle-class women believed that it was not only a meritorious act from the religious point of view, but also would bring about economic prosperity to the fellow-beings, quenches the thirst of cattle and birds, and consequently brings a marked social significance. As their economic resources were limited, they made donations for smaller irrigation works like digging canals and wells and for their maintenance. According to an epigraph dated 1293 A.D. from Tripurantakam²³, a lady named "Potasani" spent 156 gold gadyanas on the construction of a tank in the Tripurantakam area during the reign of Prataparudra II. Some canals are named after women such as '*Prolakamma*' - *Kaluva, Rudrama-Kaluva, KuppammaKaluva, Vengamme-Cheruvu* (Kalvapalli, Warangal Dist.) and so many water bodies referred by the epigraphs reveal their involvement in the development of irrigation.

The construction of tanks had greater political, economic, religious, and social significance in the context of women belonging to royal and noble families. Such an act catered to the necessity of providing political sovereignty through ritual means. It helped to strengthen the economy within their jurisdiction and also to widen the scope to maintain social relations. Undoubtedly, it became a means of controlling different power structures of the state by winning followers and gaining the favor and the loyalty of donees to the donor and safeguarding the political authority of their husband or father or brother.

The Kakatiyas attached much importance to the involvement of women in tank construction pursuits. Epigraphical evidence proves that almost all the female members of the Kakatiya family made donations for the construction of tanks and built townships around them with all amenities. Mailama, the sister of Kakatiya Ganapatideva, constructed tanks at Matedu (Mahabubabad Dist.) in A.D. 1117 and *Bayyaram*²⁴ (Khammam District) in A.D. 1194, after clearing the forest area and invited the farmers to cultivate the lands within the vast catchment area. The '*Bayyaram*' tank was constructed at a place where three streams pass between hillocks with lofty bunds of rocks and mud. According to the Bayyaram inscription. '*Mailama*' developed an ideal township known as '*Bayyavaram*' on the name of her mother Bayyaladevi. It is said in the inscription that Bayyavaram was equipped with a temple Vidyamandapa.

'*Mailama*' constructed another tank known as '*Dharmasagaram*' (Warangal Dist.) on her title name '*Dharmakirti*' which she attained by her *munificent* acts. She constructed the '*Muppavaram*' tank, '*Tripurantakam*' tank, and many other smaller tanks and dug canals, where habitations were developed on her name as '*Mailavaram*'. '*Muppasamudram*' and '*Muppavaram*' (Mahabubabad District) were constructed on the

name of the mother of 'Mahadeva' by 'Mailama'. Nearer to it, another tank namely 'Mahadeva-samudram' was constructed by Mailama in the name of her father. 'Mahadevapuram' township also was developed there by her, which (both tank and township) are still in a flourishing condition.

'Kundavaram' and 'Nidigonda' inscriptions inform us that Ganapatideva's another sister (and wife of *Natavati Rudra*), 'Kundamamba' also was credited with the construction of tanks in 'Adilabad' and 'Warangal' area. Both of these were named after her as *Kundasamudram*.²⁵ It is mentioned in the inscription that 'Kundavaram' was known by the name 'Vemulatomta' earlier and was presented to her by her father at the time of marriage as 'haridramanya' (for the maintenance of her cosmetics of piety). She built a temple known as 'Kundeswara-alaya' and donated the village to the team led by Brahmins to meet the expenditure incurred the maintenance of the temple and the tank

'Erukasamma' of the Recherla family constructed a tank known as 'Erukasamudram', founded a village 'Erakavaram', and built a temple there to 'Erukeswaradeva', which was equipped with a 'Vidyamantapa'. The same inscription informs us that she constructed another tank namely 'Laxmana-samudram' at 'Pillalamarri'. Mailama, wife of 'MalyalaChaundaSenani' built two tanks at Katkuru²⁶ (Karimnagar Dist.) for the merit of her parents and husband in A.D. 1224 and 1240 respectively. Another inscription records that queen *Gundamadevi* constructed 'Gundasamudram'.

An inscription dated A.D. 1276 records that queen 'Kuppambika', wife of *Malyalachaunda-Senani*, constructed a tank and a temple in the name of her husband. The inscription also records a long list of meritorious activities of the donor including the

construction of a tank in Boothpur (Mahboobnagar Dist.) for the religious merit of *KakatiyaGanapatideva* in A.D 1271.

Queen Rudrama, who ruled the Kakatiya kingdom between A.D. 1262-1289, too undertook many public welfare activities including the three 'Ts' i.e., *Tank, Temple, and Township*. She founded many villages on the name of her father and her name such as *Ganapavaram, Ganapuram, Rudravaram, Ambapuram, etc.*, According to '*Pratapa Charitra*' of Ekamranatha, Rudrama built 1000 *Ambapurams*, and many *Rudravarams* throughout the Kakatiya kingdom, these were the villages founded around the tanks, lakes, and canals extended from reservoirs to the fields of cultivation.

Thus, we can observe a definite dynamic role played by the women of this period. The women belonging to the ruling class and noble families shared the responsibility of administration along with their husband and in the event of his demise, they took the reins into their hands.

Glimpses of the Irrigation Policy of Kakatiyas

After the consolidation of their political authority in the Telangana region, the Kakatiya rulers made a sincere effort to work for the welfare of the peasantry of this region. As agriculture stood as the primary occupation of the majority population and also stood as the chief source of income to the state treasury.

The epigraphical records from Andhra reveal that people from all sections of the society contributed greatly to the excavation and upkeep of irrigation works. The temple also plays a significant role in that direction. Some of the epigraphical records have explicitly revealed the great religious and social significance attached to the excavation of

irrigation works like tanks, canals, wells, etc., As an impact of these ideological perceptions, the kings, the Samanthas, the nobles, officials, the merchants, religious establishments, and all wealthy men and women, in general, all contributed a lot to the construction of irrigation works. Many epigraphical records particularly from South India, speak about the construction, restoration, and repairs of tanks, canals, etc.

Through the decentralization of administration by giving land grants to military and administrative officials and religious grants to temples and Brahmans, Kakatiya rulers started tapping economic resources. On a macro level, for the realization of economic resources, the Kakatiya rulers followed the "land reclamation Policy". Land Reclamation" was in progress during this age. With particular references to the Kakatiyas, Land reclamation Policy had two aspects. Firstly, the erection of a large network of tanks, and lakes for irrigation, deforestation, and formation of new habitations and secondly granting these villages as 'Devadana lands' to the temples and as Agrahars lands to the Brahmanas. There is substantial evidence regarding large-scale deforestation, an extension of arable land, and improvement in irrigation facilities.

A systematic effort to bring land under cultivation was made the reign of Kalyani Chalukyas, who ruled the region from circa AD.973 to AD. 1150. For instance, the 'Kazipet' inscription dated AD. 1090 refers to the creation of a new village called 'Sivapura' by their subordinate ruler Kakatiya Beta-II. Their inscriptions also mention several other new villages like 'Sanigaram'. (Situated in Karimnagar taluk of Karimnagar District). 'Chilkur' (Huzurnagar taluk of Nalgonda District). 'Peruru' (Miriyalaguda taluk of Nalgonda District). 'Bekkallu' (Jangoan taluk of Warangal District) and Marated (Mahbubabad taluk Warangal District). Places like Choopadandi, Jammikunta,

LinganachettiKonduru, and Bikkiyapalle, which are difficult to identify are also mentioned in the inscriptions.

The Kakatiyas rulers also encouraged their subordinates, merchants, and Brahmins to establish new villages. The "Manthena" epigraph records that a chief, "*Allumprolaraju*" of Chennurides, with the acceptance of the king Ganapatideva, made a gift of a vast area of land to Brahmins for establishing a new village and excavating a tank. The donee accordingly excavated a tank and gave house sites to Brahmins of '*Mantratkata*' for settlements.

A person named "*Bairisetti*", who belongs to '*Virabalanja*' merchant class, took a special interest in the construction of a tank at Peddapariyala village during the period of the last Kakatiya king, Prataparudra II. He donated his ownership rights to the temple for the maintenance of the temple and tank.

According to the eminent American historian Burton Stein, In the words of Burton Stein, regarding land reclamation, "the reduction of forest and the expansion of regularly cultivated land was a continuous process. This may be regarded as the ecological concomitant of the social displacement and assimilation of tribal people. As in any developing tropical agrarian system, the clearing of the forest was on the standard methods for expansion: this kind of change in environment may therefore be considered as a regularized process in which the temp of expansion is a factor of vital importance". As such, the kings and their subordinates encouraged land reclamation for the new land to bring in cultivation.

Agriculture was the chief occupation for the majority of the people of Kakatiya age. Similarly, it produced a huge share of revenue for the state. As a result, Kakatiya kings and

officials suffered. They extended all possible help to the peasants of their kingdom by constructing new tanks, wells, canals, etc.,

Kakatiya rulers adopted different methods to improve water sources in their kingdoms.

1. They built huge tanks.
2. Assuring the villages by providing new water sources.
3. Foundation of new villages with all types of concessions.
4. Agraharas were given to Brahmins with all types of tax exemption.

They realized big-sized tanks would store a large quantity of water during the rainy season. This will help peasants.

The following are some huge tanks during the Kakatiya period:

1. *KesariSamudram*
2. *UdayadityaSamudram*
3. *ProlaSamudram*
4. *ErakaSamudram*
5. *AppambudhiSamudram*

The following are a few examples of small tanks;

Pedda cheruvu (big tank)

Gundla cheruvu (big tank)

Setti Kere (big lake)

A new type of irrigation craftsmanship emerged during the Kakatiya age. The *Palampet* tank, *Bayyaram* tank, and *Ghanpur* tank of the time are examples of the masons' excellent engineering skills. Thus, the Kakatiyas handed over a very encouraging irrigation heritage (policy) to their successors i.e., *Velama*, *Reddi*, *Vijayanagara* and *Qutbshahi* rulers who ruled *Andhradesa* between 1324-1687 A. D. An attempt is made in future chapters to provide an overall view of the state of various forms of irrigation works built, repaired and encouraged by the successive rulers who ruled *Andhradesa* during the period between 1324-1687 A.D.

CHAPTER-III
TABLES

S. No	Name of the Irrigation Work	Name of the builder/constructed by	Period/Date/Year/Location	Source	Remarks
1.	Kesari - Thataka or Kesari Samudram	Prola-I	1052-1076CE /Kesamudram(Village)Dist:Mahabubabad	E.I.Vol-XII p.193 (Motupalli&Bayyaram inscriptions)	Prola-I was excavated the tank after his famous title "Ari-gaja-kesari"(E.A.Vol-I p.72)
2.	Settikeriya, Kesari-samudra	Beta-II son of Prola-I	1076-1108 A.D.	Hanamkonda Inscription-I.A. P-Wg.p.85.	Beta-II Installed the God Varuna while excavating the Kesari-samudra Tank.
3.	Hanmakonda Cheruvu (Near Hanamkonda Bus stand)	Gangadhra Minister of Rudradeva	1199-1262 A.D.	JAHRS. XXXVI-I, Appendix-4	Hanmakonda epigraph
4.	Tanks near Nellore (Teluguchoda), Ghanapuram (Krishna Dist.)	Ganapatideva and his Subordinate chiefs	1199-1262CE	Pratapa-charitra	
5.	Pakhala Tank	Jagadalu Mummadi son of Bachamamba, Bayyana Nayaka Minister of Ganapathideva	Situated Near Narsampeta, Warangal(Rural) Dist.	Itihas(Journal of Archives,A.P.) Vol-I pp-61-62(Dr. Y.G.Reddy)	Pakhal lake lies in basin of the Manair.
6.	Ramappa Tank	Recherla Rudra senani, The General of Ganapatideva in 1213CE	1213CE. Palampet, Mulugu Dist:		Inscription set up in the Shiva Temple, Ramappa

7.	Ghanapur Tank	Ganapatideva's period	Ghanapuram Near to Ramappa Tank		Ghanapur Tank
8.	Laknavaram Tank	Ganapatideva's period	Laknavaram Village, Mulugu Dist.		Laknavaram, Bayyaram and Pakhala lakes are fed by three big streams which flow in three directions of a large plateau.
9.	Bayyaram Tank	Mailamba wife of Natavadi Rudra and sister of Ganapatideva	Bayyaram, Near Mahabubabad District		Laknavaram, Bayyaram and Pakhala lakes are fed by three big streams which flow in three directions of a large plateau.
10.	Chaunda Samudra	Malyala Chaund-Senapati, the commander of Ganapatideva	Kondaparti (12 km away from Warangal)		
11.	Kundasamudram Tank	Kundamamba, another sister of Ganapatideva	Kundavaram Village	Kundasamudram Tank	
12.	Katkuru Tank (Karimnagar Dist.)	Mailama, Wife of Malyala Chaunda senapati	Katkuru village in Karimnagar District.	Katkuru Tank (Karimnagar Dist.)	
13.	Several Tanks excavated by near Pillalamarri	Recharla family in the present Suryapeta District	Pillalamarri and nearby Villages.		
14.	Seven Tanks excavated in Nalgonda	Bollaya nayaka of Madapalli, Chief of Kakatiyas	Madapally and different places.	S.I.I.X,472	

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 - 6 . *Studies in Indian Epigraphy*, Vol-I, p.9
 - 7 . ‘Vilasa’ Copper Plates of *MusunuriProlayanayaka* dated,1328 or1330 A.D., Published in E.I.Vol, XXXII, pp,239-268.(*Vilasa* is a small hamlet located near in Amalapuram in AinvelliTehsil,in East Godavari District.Konasima. It was donated to a brahmin, *Vennayaa* great scholar in Vedas on the eve of the lunar eclipse by Prolayanayaka.
 - 8 . JTA, Vol-II, p.106.
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CHAPTER – IV
IRRIGATION WORKS UNDER VELAMA AND REDDI RULERS
(1324-1468 A.D.)



The decline of Kakatiya's power in the year 1323 A.D. gave a great setback to the hopes and aspirations of the people of Andhradesa. The oppressive rule of Delhi Sultan's Governors at Sultanpur (Warangal) and in other parts of South India encouraged the ex-officials and generals of Prataparudra II, the last Kakatiya King, to unite the local people against the oppressive rule of Delhi Sultan's Viceroys.

As a result of dynamic young leaders such as Musunuri Prolayu Nayaka, Musunuri Kapaya Nayaka, Prolayavema Reddi, Recherla (Velama) Padmanayakas (*Singama Nayaka I*), Araviti Somadeva Raju, and Harihara-I and Bukka-I, etc., the liberation movement was started in various parts of South India. The single aim of the heroic efforts of this liberation movement was to liberate and protect the local people and Hindu culture from the oppressive and destructive activities of the viceroys of the Delhi Sultan. Their efforts received tremendous support from the local people. The Andhradesa was liberated from Muslim rule in the year 1336. D. Due to the efforts of local leaders, petty independent states such as the "Musunuri Kingdom" at "Recapalli" or "Sultanpur" or Warangal, the Reddy Kingdom at Addanki, the Padmanayaka Kingdom at Rachakonda, and the Vijayanagara Kingdom at Anegondi emerged. The rulers of these kingdoms won the unflinching support of the local people and liberated the Andhradesa from the yoke of Delhi Sultanate rule. They provided security for the lives of local people and saved the rich local culture.

During the period of Reddy, Masunnuri, and Padmanayakas in Andhradesa agriculture stood as the primary occupation of the majority of people. The rulers, their officials, guilds, and rich individuals took a keen interest in the construction and renovation of new irrigation works, such as tanks, wells, canals, and lakes. They also made a large number of donations to the State and individuals for the repair and maintenance of earlier tanks, wells, and lakes. In the contemporary epigraphs and literature, references are there about the importance given by Reddy and Padmanayaka rulers to promote, protect, construct the irrigation works in various

parts of Andhra Desa. Their spirit also inspired their successive rulers i.e., Vijayanagara and Qutbshahis.

Political History of Velamas

The decline of the Kakatiya Kingdom in the year 1323 A.D. created political and cultural turmoil in Andhradesa. Under these critical conditions in the Western parts of Telangana the '*Velamas*' or '*Padmanayakas*' of 'Racherla gotra' declared their independence under the leadership of Sigamanayaka I. The Recherla rulers, who rose to prominence in the fourteenth and fifteenth centuries, belonged to the Velama caste and were loyal subordinates of the Kakatiyas. The founder of the Recherla family was Betalanayaka who belonged to the dominant Velama peasant caste group of the time. Kakatiya ruler Ganapatideva (AD 1199-1262) assigned the administration of Amanagallu to Betalanayaka. The Velama chief Prasaditya was one of the loyal feudatories to Rani Rudramadevi. According to Velugotivarivamsavali, Prasaditya is said to have assumed the title Kakatiya Rajya Sthapanacharaya and Raya Pitamahanka. Prasaditya was also appointed a nayaka under the nayamkara system that had come to fruition under Ganapatideva. He is said to have been entrusted with the defense of the kingdom as one among a group of 77 nayakas.

Sigamanayaka I and his ancestors has served under the last Kakatiya ruler Prataparudra II. He was the contemporary of Prolayanayaka and Kapayanayaka of Musunuri family, ProlayavemaReddi of Reddi kingdom, Alauddin-Hassangang Bahmani of Bahmani Kingdom and Harihara I and Bukka I of Vijayanagara kingdom. After the death of ProlayanayakaSingamanayaka declared his

independence. Among the successors of Singamanayaka his son Anapotanayaka I was capable ruler. He led his forces against Kapayanayaka of Warangal and his allies.

Rachakonda' or 'Rajachalam' was fortified by Anapotanayaka and he made it as his capital. After the defeat and death of Kapaya in the battle of Bheemavaram' (1368A.D.) Among the successors of Anapotanayaka, his eldest son 'Kumarasingamanayaka' also known as Singamanayaka II (1389-1399 A.D), 'Anapotanayaka II (1399-1421 A.D.) Madhanayaka' (1421-1430 A.D.), 'Sarvagna Singabhupala' (1430-1475 A.D.) were well known for their brave qualities.

IRRIGATION WORKS UNDER VELAMA RULERS:

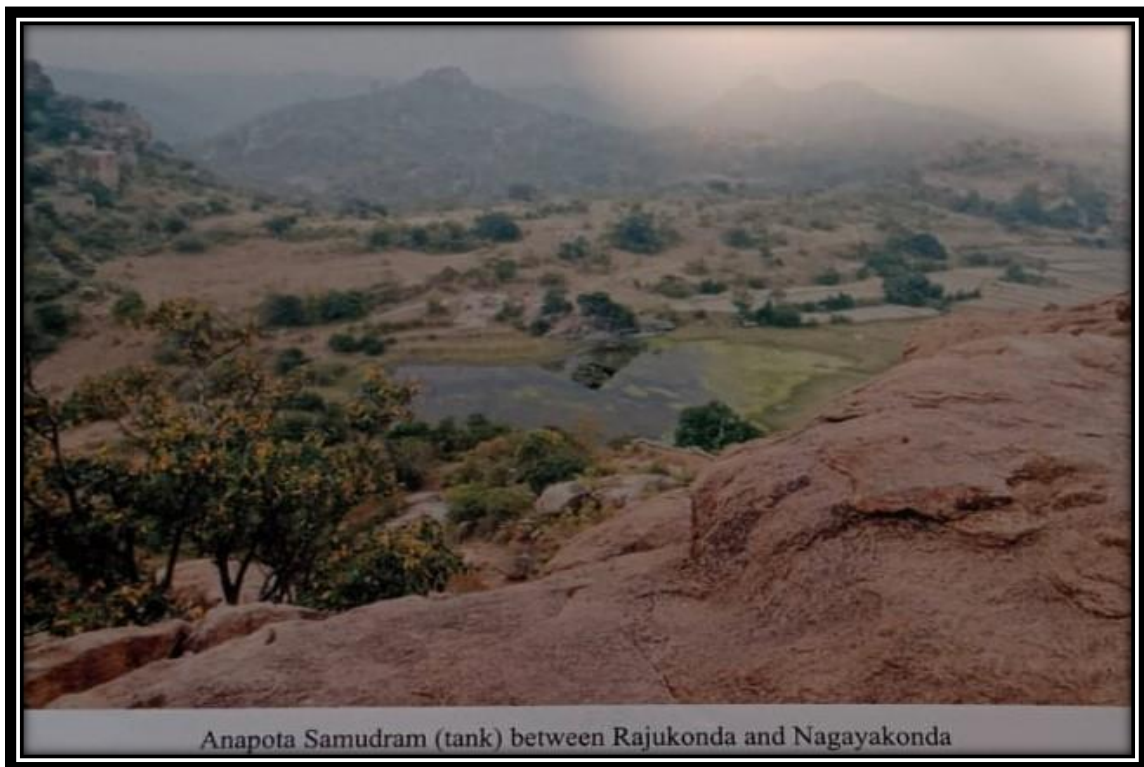
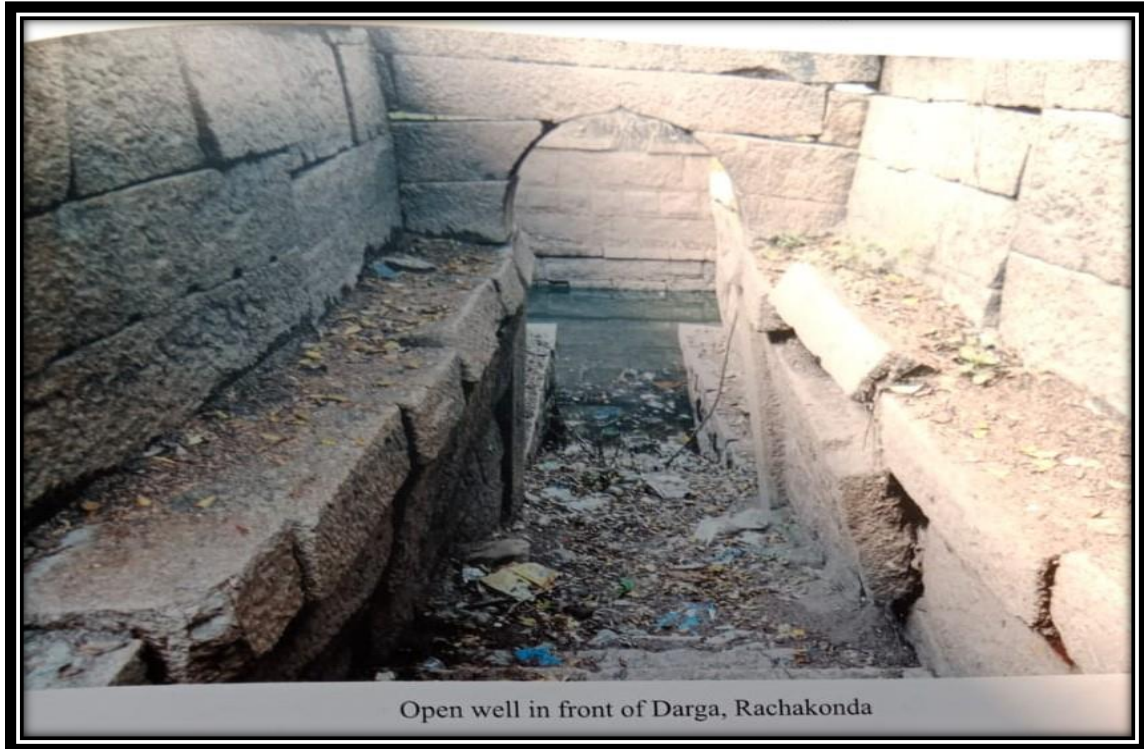
The region ruled by Rachakonda and Devarakonda chiefs lay mostly in the present-day districts of Mahaboobnagar and Nalgonda. These two districts though covered with red soils hardly drained by any river system.

The Velamas of Rachakonda and Devarakonda as subordinates to the Kakatiyas and followed their overlords, i.e.Kakatiyas. The Kakatiya rulers formulated a policy of deforestation and land reclamation for the expansion of agriculture. The epigraphs attested to this fact. Many epigraphs issued by the Rachakonda and Devarakonda rulers speak of the construction of tanks and wells¹. The contemporary epigraphic and literature furnishes information on source reveals that the establishment of new villages and tank construction.² Every village is

benefited by a major tank in this region. The tank irrigation system in general resulted in the establishment of nucleus villages.

The Velama rulers also worked for the cause of improving agriculture in the region. Agriculture was the primary occupation of the majority of people of this age. Many tanks and lakes were constructed in the premises of their capital 'Rachakonda'. During the Velama rule, we find some epigraphical evidence of irrigational works, especially tanks. Madanayaka's wife 'Naagambika' built a tank in 1429 A.D. at Rachakonda which was known as "*Nagasamudram*"³. The following table shows the number of tanks and wells constructed by different chiefs of Rachakonda and Devarakonda in this region.

S.No.	Name of the Tank/ Construction/Ruler	Period	Source
1	Anapota Samudram	Anapota I 1365A.D.	Rachakonda inscriptions
2.	Raya Samudram	Anapota I 1380A.D.	Rachakonda inscriptions
3	Naga Samudramu	Nagambika Queen of Rau Madava Nayaka 1429 A. D	Devala Nagaramu
4	Vedagiri Tatakamu	Vedagiri	
5	Paravata Rao Tatakamu	Madhava Rao	
6	Madhava Rao Cheruvu	Madhava Rao	



Thus, we can conclude that Velamas contributed to the growth of rich culture in Telangana. In recent times, the history of Rachakonda Velamas became a most popular topic in the newly formed State of Telangana due to our Chief Minister's special interest to develop this historic Fort-town into a famous tourist center.

A BRIEF HISTORY OF THE REDDY RULERS:

Prolayavema Reddy an ex-official of the last Kakatiya ruler Prataparudra II, declared his Independence with 'Addanki' as his headquarters after liberating the coastal Andhra region from the oppressive rule of Delhi Sultan's viceroy. He and his successors ruled the present coastal Andhra and Rayalaseema between 1325 – 1424A.D. The important rulers of Reddy Kingdoms (Kondavidu branch) were Prolayavema Reddy (1325-1353A.D.), Anavota Reddy (1353-1364 A.D.), Anavema Reddy (1364-1386A.D.), Kumarigiri Reddy (1386-1402A.D), PedakomatiVemareddy (1402-1420 A.D.), and Rachavema Reddy (1420-1424 A.D), Katayavema Reddy (1395-1414 A.D.) Kumaragiri Reddy II (1414-1416 A.D.), Kumaragiri Reddy III and Anavota Reddy III (1416-1423 A.D.), and Veerabhadra Reddy (1423-1448 A.D.) are important members of the Rajamahendravaram branch of Reddy rulers.

The Reddy Kings encouraged Agriculture, trade, and commerce. There are several references to the Irrigation works built during the Reddy age by rulers, their ministers, generals, and rich people. In the following pages an attempt is made to provide selected details of irrigation works of Reddy age.

IRRIGATION WORKS DURING REDDI PERIOD

Sreenatha, in his work '*Haravilasam*', described the land quality of his age. The soil of the country being generally dry, artificial irrigation was necessary, irrigation works consisted of three principal types, namely wells including *doruvu* wells on the river banks, river channels, and tanks or reservoirs formed by constructing embankments across two hills and rivulets or streams⁴. Koravigoparaju in his work '*Simhasanadvatrimisika*' gives a list of sources of irrigation and appliances to lift water from a lower to a higher level, such as '*kalvalu*' (canals), '*payalu*' (branches of rivers) '*kollu*' (artificial canals or marshes), and '*ratnamulu*' (appliances to draw water or water wheels worked with feet)⁵. In the regions of black soil where its depth is moderate and the sub-layer is porous, well-irrigation was in vogue.

The various means of drawing water from wells, tanks, lakes, Kuntas were also described in contemporary sources. Water was drawn from wells and if the fields were a higher level from channels, canals and watery marshes, etc using lifts like *etam* '*picottah*' and '*kopila*' (*mota*). There were *digudubavis* (wells having steps to descent into) besides the ordinary wells. Irrigation from wells was rare in upland regions and common in plains, especially in the regions in the neighborhood of rivers.

It is only in the 'Nagaram and the 'Amalapuram' taluks in the East Godavari district that wells are stated to have been dug during the Reddi period. They are found in use even today. They are very large, from eighteen to twenty-four feet deep, hold from six to twelve feet of water are riveted with bricks, and are said to

be very ancient. They are sometimes called 'Jain' wells and are supposed to date from the days when the 'Jain' faith prevailed in the country in 'Amalapuram' they are sometimes called 'Reddis' wells. They are largely used for the irrigation of acres and coconut plantations and the supply in them is said to be practically perennial⁶.

Natural River Channels, Ponds, and Canals

During the post-Kakatiya age, natural springs and rivers, channels, and creeks also helped the cultivator irrigate his fields. Land irrigated by water from such channels yielded two (and probably three crops of rice⁷. Besides those water-logged low lands, natural ponds, swamps, and marshes called '*padiyas*' *pades*⁸ or *pidavas* (*badavas*) were also utilized for irrigation purposes.

Waterways were constructed during this time to transport water from the sandy banks of rivers and tributaries. '*Namaya Nayaka*' is said to have ruled the country watered by the river *Ela* (*Elanadimatrka*)⁹. This statement suggests that the land in his kingdom was irrigated by canals dug out from the river *Ela* (*Eleru*). Such irrigation canals are referred to in the '*Bhimeswara Puranam*¹⁰' by poet Sreenatha. Irrigation by canals wherever possible was a special feature of the low-lying tracts.

Many '*agraharas*' were irrigated by such artificial canals¹¹. These artificial canals were called '*Kroppum-galiyolu*' (*kroccu* to dig; *kroppum-galiya*, a dug-out canal). Such canals as these were also dug by private individuals for acquiring merit for themselves or their near relatives¹².

Tank Irrigation during the age of Reddi Rulers: -

Contemporary epigraphs and literary works are giving some details about tank irrigation of the post-Kakatiya age in Andhradesa. Irrigation by tanks was one of the chief features of the ancient Andhra Country, mainly to the south of the Krishna. A large number of big tanks were in use in Guntur, Nellore, and Kurnool districts, some at the expense of the state and others by private individuals as a meritorious act for the continuance of their name forever. The construction of a tank is classed among the *Sapta-Santanas* or seven kinds of progeny that keep on one's name for ever¹³. Though tanks are generally dug or excavated in the areas of soft clay soil, they are as a rule constructed in the catchment areas in the upland regions of hard soil and land below such tanks was utilized for growing rice and garden crops.

The "*Porumamilla*" tank inscription¹⁴, dated in Saka 1291, by the Vijayanagar prince *BhaskaraBhavadura*, the governor of Udayagiri, is a remarkable record of this period, giving details and specifications of sites for tanks and their construction. The *Porumamilla tank*¹⁵, in the Badvel taluk of the Cuddapah district, was constructed by the *laksanas* given above. This inscription gives us an idea of how tanks in the hard clay soil in the region to the south of the Krishna were constructed during the post-Kakatiya period. These were all rain-fed tanks and depended on rainfall for their water supply. Because of their large size, these tanks were called *sagaras* or *samudras* (seas).

It is stated in the inscription that for two years, 1000 laborers were looking daily on the dam and 100 carts were used to acquire stones for walls, which were

part of the wall construction. We are told that the dam was 5000 *Rekhadandas* wide and seven in high. The length and breadth of that tank at the present day is seven miles and two and a half miles respectively. The details of this tank are given here to give the reader an idea of the size of these artificial reservoirs.

Ruins of such tanks as these and their embankments can be seen even today in the Guntur district for instance an embankment to the north of the village of *Dondapadu* in the Vinukonda taluk connected formerly two hills form a tank which irrigated the country as far as 'Vinukonda'¹⁶. Near the village of *Kolloru* in the *Sattenapalli* region, nearby village are found traces of two bunds of ruined tanks, originally intended to collect the water from the hills on the east¹⁷. *Santanasagara* was one such tank constructed during the reign of Peda Komati Vema by his wife *Surambika*. This fact is known to us from an inscription in the Virabhadrasvami temple in the village of 'Phirangipuram'¹⁸ in '*Sattenapalli*' taluk of Guntur dated in Saka 1331 i.e., 1409CE.

The '*Naguleru*' which runs through Palnadu had a massive embankment that once dammed up its waters between the hills of '*Karempudi*' and that of the '*Singaruutla*' agraharam. At *Dachepalli*, *Gamalapadu* and *Sankarapuram* were huge stone dams called *Kuttivas*. Hence small irrigation channels led to some garden lands¹⁹. Peda Komati Vema's son 'Race Vema' the last Reddi monarch that sat on the throne of '*Kondavidu*' constructed a canal called *Jaganobbaganda Kaluva*, (channel) built in the year S.1337 i.e., 1415 CE, to the tank named '*Santana Sagara*'²⁰ built by his late mother.

Besides the wells and tanks of the type described above, others were also used for irrigational purposes, either dug or excavated at the bidding of the village community, the officers of the state, or private individuals. One-tenth of the land irrigated by the water below such wells and tanks was given to those who were put in charge of their construction, repairs, and maintenance. Such land was termed the "Dasabandham-Manyam." Baden Powell, while enumerating the nine kinds of inams classified according to their object or purpose, defines *dasabhandham* as an *inam* given for the construction, repair, and maintenance of irrigation systems in the ceded districts of Krishna, Nellore, North Arcot, and "Salem". Some of the Vijayanagar records of this period, discovered in the coastal region, are *dasabandham* deeds of an interesting nature.

The "*Phirangipuram inscription*²¹" contains some beautiful Telugu verses written by Srinatha, the court-poet of Peda Komati Vema Reddy, eulogising the "*Santanasagara*" in hyperbolic terms, comparing it with the Ocean. Many other poets followed Srinatha's example in later times and composed verses, probably at the bidding of their patrons, on the tanks constructed by them. We have examples in the contemporary sources which are in no way inferior to the verses in the classical Telugu *Prabandhas*. This epigraphical information may be properly called "*Tank-literature*."

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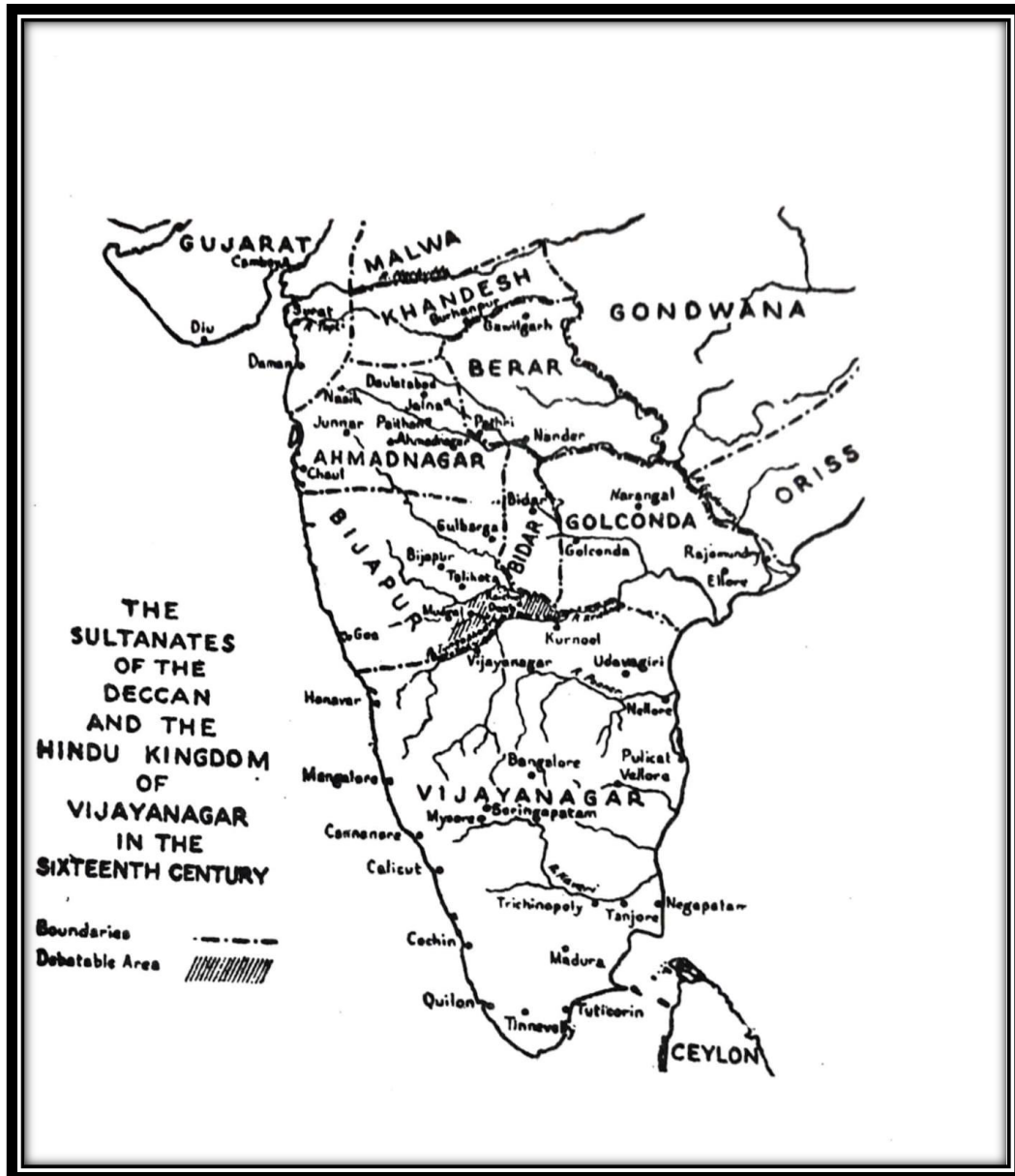
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 గోరికయారటంబుంగగొండలకాలువఅడ్డకట్టుదుర్
 నీరికి.....”
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 జేయగలేదుకాలవకజేసిననేతములెత్తికాల్వలుం
 బాయలగోళ్ళు-నూతులునుబావులురాట్నములన్దలార్థమై
 చేయగనాయెగాకమరీచేయనివాడనితామేపుట్టానే.”
6. *Dg. Gd.*, Vol. I.p.89.
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 The term ‘Pade’ means a marsh; it was larger than a padiys, a small pond.
 Padana, the modern badava, is another form of pade. Pade does not mean a
 waste as is understood by some scholars.
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" ఏలేటిమేటికాలువలవలననదీమాతృకంబులగుపంటపలాతి

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 సలీలవివర్ధమానబహుసస్యసమాకులమగ్రహారమై:....”.
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CHAPTER-V

**IRRIGATION WORKS UNDER THE RAYAS OF
VIJAYANAGARA IN ANDHRADESA**



The history of Vijayanagar is a glorious chapter in the history of Medieval South India. It combined, in itself, the areas of the Telugu, Kannada, Tamil, and Malayalam people. Andhradesa was also one of the parts of it. In the political and

cultural spheres, the rule of the Vijayanagar kings is remarkable. It was the last important Hindu kingdom in South India.

The Empire of Vijayanagar was established by Harihara and Bukka in 1336 A.D. with the advice of the sage Vidyanarya. They were the sons of Sangama, and hence, their dynasty was named after him. The successors of Harihara and Bukka ruled up to 1485 A.D. and gave place to the Saluvas under Narasimha. Narasimha and his successors ruled from 1486 to 1505. Then came the Tuluvas to the Vijayanagar throne. Their rule lasted up to 1570, when they were displaced by the Aravidus, who had ruled until 1650 A.D. Though the dynasties were different, all these four ruled over a major part of South India, with variations in the extent of empire.

During the period of the rule of the Sangama dynasty of the Vijayanagara empire, i.e., from 1336 A.D. to 1485 A.D., the rulers and their officials made all possible efforts to promote agriculture. The rulers of the Sangama dynasty between 1336 to 1485 A.D., led a hard struggle to protect, expand and consolidate their newly founded kingdom. The dynasty saw the rise of efficient rulers, like Harihara I, Bukka I, Devaraya I, and Devaraya II. They faced a strong challenge from the Bahamanis of Gulbarga, Reddis of Kondavidu, and Gajapathis of Kalinga. The Vijayanagara armies succeeded in scoring significant victories over their contemporary rivals and attracted the attention of the rulers of the west. The travel accounts of Nicolo-de- Conti, Varthema, Duarte Barbosa, Abdur Razzak, Nikitin, Domingo Paes, and Fernao-Nunizare endorsing the power and prosperity of Sangamas and Vijayanagara Kingdom.

The usurpation of power in the year 1485 A.D., by Saluva Narasimha, the most loyal, capable and popular commander-in-chief, Minister and Governor of Chandragiri between. 1448-1485A.D. proved a historic act. The unpopular ruler of Mallikarjuna Raya and his successors (Prouderavaraya, etc.) pushed the very survival of Vijayanagara into danger. Saluva Narasimha Raya's timely act of Usurpation was described as a historical necessity by eminent historians like Nelaturi Venkataramanayya, and Pisupati Sree Rama Sarma. The short rule of Saluva Narasimha and his sons came to end in the year 1505 A.D. Tuluva Viranarasimha, son of Tuluva Narasanayaka the most trusted general, minister of Saluva Narasimha Raya and his sons between 1485-1505A.D., grew very selfish.

Tuluva Viranarasimha, seized the Sovereign power in the year 1505A.D, after getting murdered, the third son of Saluva Narasimharaya at '*Penugonda*' fort with the help of Rayasam Kondamarasayya and his men. The selfish act of Usurpation by Tuluva Viranarasimha Raya (1505-1509A.D.) was not welcomed by most of the '*Dalanayakas*' and provincial heads. Revolts out-broke in the different parts of the Kingdom. He failed in crushing them. In the year 1509 A.D., he passed away. His younger brother Sri Krishnadevaraya ascended to the throne in August 1509 A.D., heralded a new era in the history of Vijayanagara. His rare qualities as a dynamic ruler, humble servant of his subjects, desire to wipe off the ill-will, that has erupted in the minds of his people, nobles due his elder brothers act of usurpation, forced him to discharge his duties as a dignified ruler and very popular among the entire rulers of Vijayanagara. Srikrishnadevaraya, followed the ideas shared by earlier thinkers and rulers.

The rule of Sri Krishnadevaraya between 1509-1529A.D. was the period that witnessed the zenith of the glory of the Empire. This Glory was not confined to his military achievements only. Along with the economic prosperity, culmination of the literature of the South Indian languages, we notice a sudden outburst of artistic activity in the realm of fine arts. More important than all this activity was the care and attention bestowed by the king Krishna Raya on the needs of the people and specially peasants. During his reign, there was much activity connected with the irrigation works. Trade and commerce also received great support of the ruler.

Sri Krishnadevaraya was a great scholar in Telugu. He was credited with the scholarly work, "*Amuktamalyada*" by scholars. It was a work on polity. It describes the qualifications, duties of a ruler. It is also throwing great light on the contemporary socio-economic and cultural aspects. In his work, Raya himself mentioned the need for constructing irrigation works to improve the agrarian economy and also to support the peasants, by extending water facilities to their farmland¹. He and his ministers, Generals, Provincial governors, guilds, Temples took an active part in the mission of construction of new tanks, canals and renovation of old by extending great support to the concerned sections.

The court of Sri Krishnadevaraya became the centre for cultural activity. The Empire had witnessed considerable expansion and North during the regnal period of Sadasiva Raya, but it also suffered its serious defeat in the battle of Rakshita-Tangadi in 1565 A.D. in the combined forces of Deccani Sultans. Sadasiva Raya became a captive in the hands of Tirumala-I and finally, he was murdered at Penugonda by Araviti Tirumala-I. Thus, the rule of Tuluvas ended in 1570 A.D. The

Tuluva rulers during their long rule over six decades, over Andhra, Karnataka and Tamil regions encouraged agriculture by constructing large number of irrigations works and repairing the old one. They also made effective arrangements for their repairs and maintenance. Special efforts were started by them to utilize the engineering skill of Portuguese in the construction of a dam at Nagulapuram.

Tirumala-I became the third usurper. He laid the foundation for the Aravidu rule from 1570 onwards. Tirumala and his successors ruled up to the year 1640 A.D. Venkatapati Raya- II, was the most capable ruler among the Aravidu family. The kingdom got disintegrated due to various factors by the year 1640A.D.

Large number of inscriptions of Rayas are throwing light on the concerning the irrigation undertaken by the Rayas of Vijayanagara are spread over a wide area. In Andhradesa inscriptions found at Cuddapah, Nellore, Guntur, Kurnool, Ananapur and Chittoor. We also have inscriptions from Tirumala – Tirupati Devasthanam which contains valuable information regarding construction of tanks and canals, excavation of irrigation channels and digging of wells by rulers and their officials.

In all the areas of South India which formed an integral part of Vijayanagara, one comes across, even today, the wells, huge tanks, lakes and canals which were dug for the specific purpose of providing water to the agriculturist to put his land to more profitable use. That so many of these irrigational works of vijayanagara times are surviving even today intact to this day indicates that the works have been executed with great aim and care.

As agriculture was the mainstay of the population, the Vijayanagar kings tried to improve the irrigation of the lands. A number of tanks were constructed for

the purposes of irrigation as well as drinking water. As an example, the “*Porumamilla*” tank in the Cuddapah district can be cited. An inscription at that place interestingly mentions the places where the tanks should or should not be constructed. With Portuguese engineers’ assistance, Krishnadevaraya constructed a big tank near Hampi with the help of Paes and Nuniz. A number of inscriptions mention the concessions that were granted to those who brought the land for the first time under cultivation.

Many epigraphs of Sangama rulers are providing authentic information about state of irrigation works. An inscription ²of the reign of Bukkaraya -1. A.D. (1356-1377), from Cuddapah District, gives valuable information about a tank built by ‘*BhaskaraBhavadura*, son of Bukka-I. His inscription documents the establishment of the tank at Porumamilla in Badvel Taluq, situated to the south of Srisaila, 2 Yojanas to the east of Ahobila, and towards the north of Siddhavarana, as well as to the west of Udayagiri, situated in the Sakiladesa, by Bhaskara alias “Bhavadura”, who was the Governor of Udayagiri. The dam is 5000 rekha-dandas long and was built by 1000 workers over the course of two years. The tank has four sluices. Incidentally, it mentions the importance of the tanks and their construction in general. This inscription is dated Saka 1291, which corresponds to the year 1369 A.D.

This epigraph is extremely important as it contains evidence regarding the solicitude of the King for the welfare of the people. The ‘*Porumamilla*’ inscription is significant in that it places before us the ideals of the rulers when it explains why

the tanks are built and gives us the minute details regarding construction, in other words, a peep into the engineering science of those days in this part of the country.

An inscription³ of Harihara II (1377-1404 A.D.) from Bellary District (Hospet) dated 1404 A.D. in Saka 1319 (expired) corresponding to A.D. 1398, refers to the construction of a tank, situated to the left of the temple of '*Prasanna Anjaneya*' by certain persons of the names of *Virupaksha* Pandita and *Vinayaka* Pandita, sons of *Ganapati* Pandita, son of *Raghava* Pandita and *Kamalamba* of the *Bharadvaja* Gotra, of the '*Madhyandina*' school (of *Yajurveda*).

An inscription of *Devaraya* 1 (A.D. 1406-22) from Hospet Taluk in Bellary District⁴, dated in Saka 1333, corresponding to A.D. 1412, According to the records, *Bulle-Nayaka* built a water shed at the intersection of the roads leading to *Bisilahalli* Kanuve and *Badavaliya* Kanuve and purchased three *vritti* properties from three *Brahmans* (identified) to maintain the well and the water shed. This inscription indicates the solicitude shown to wayfarers in constructing a watershed very strategically at the junction of the roads. It also shows us that not only wells were dug but the means were also supplied for making water easily available to the traveller instead of necessitating the drawing of the water from the well. It speaks highly of the kings' officers for not only were these works of public utility constructed but also provision was made for their maintenance as well.

We also find reference in an inscription⁵ from the Anantapur District (Hindupur Taluq), of *Bukka* II, dated in Saka 1309, corresponding to A.D. 1388, saying that "*Poli Nayaka*' a, son of '*Mahanayanka Charya*' *Harigila Kiti* *Nayaka* ruling at *Medireddipalli*, caused a feeder channel to the tank in that village to be dug

from the river Chireru by Peda-BayiraPoju and China Bayira Poju and granted them some lands as “*Dasavandham*”.

These and other inscriptions indicate the importance given to irrigation works by the princes, who were given Governership over certain areas, encouragement was given to private individuals and even the ‘*Nayakas*’ appointed over certain villages, took a keen interest in excavating irrigational works.

There are numerous inscriptions referring to the irrigational works undertaken during the reign of Devaraya II. Considering the numerous wars, he was engaged in with his neighbours on the North, South and Eastern borders, it is remarkable that he found time to devote himself to the welfare of his people. The latter kings of the Sangama Dynasty, involved as they were in a life and death struggle, did not forget to attend to public works.

An inscription⁶ of SaluvaNarasingarayaMaharaya (AD 1485-90), dated in Saka 1407 corresponding to A. D. 1485 from Anantapur District (*Madakasira*Taluq), records that *Rayaparaja*', son of Bayarajadeva-Chola-*Mahaarasu* is said to have made a gift of land and the channel called '*Sankaradevana*'- '*Kaluva to Narasimha Somayaji*, Prasanna Somayaji and Lakshmana Somayaji on the condition that they would convert the valley adjoining the field, into a tank and call it '*Narasambudhi*' following the king's name.

His son SaluvaImmadiNarasimhraya also followed the policy of his father. Two inscriptions of SaluvaImmadi Narasimha Maharaya (A.D. 1490-1505) from Cuddapah District (Pulivendala Taluk) dated similarly in Saka 1416, corresponding to A.D. 1494, record the construction of a canal named "*Katu-Kaluva*' and a a

reservoir by Kasavi Nayaka's son Narasa Nayaka, in the memory of his mother Kaveramma⁷

The advent of Sri Krishnadevaraya on the scene of Vijayanagara heralded a new era in the history of Vijayanagara. Another inscription from Hospet District (same Taluk) in Carnatica, dated Saka 1438, corresponding to A.D. 1516, records that Ranganath Dikshita, son of Nanjina the Bhatia, the ruler's Purohita, 'manya' village from the ruler, impacted the building of a tank named "*Nagasamudra*," after the name of Nagaladevi, the King's mother.⁸ Yet another inscription of Krishnadeva Raya from Cuddapah District (Badvel Taluk), dated in Saka 1448, records a grant of land made to Porumamilla Anna (dvara) Nayaka by Vengalayya for the construction of well.⁹ To Krishnadeva Raya has been given the credit of facilitating and enhancing the irrigational works. The significance of irrigational works is reflected further in Krishnadeva Raya's words, which are recorded in his famous work, the "*Amuktamalyada*," in which he states that a state's size is the root cause of its prosperity, and that if it is small, its prosperity will increase only when tanks and irrigational canals are built, and tax breaks are given to poor peasants¹⁰.

The policy of extending and constructing active support to agriculture His successors also continued the peasantry. Achyutadeva Raya (A.D. 1530–42) was also responsible for a number of irrigation projects. To cite a few, An inscription dated Saka 1460, corresponding to A.D. 1538, records that a certain "*Virana Nayaka*", younger brother of Virupannayya of Penugonda, unearthed a spring (*Talaparigi*) with a reservoir called "*Nutana Tungabhadra*" in Modaya village, surnamed Achyutarayapura.¹¹

Another inscription of Achyutadevaraya Maharaya. dated in Saka 1452. corresponding to A.D. 1530 from Guntur District (Sattenapalli Taluk), records that Peda Tirumalayyadeva Maharaju, brother-in-law of Achyutadeva Raya had a tank built.¹² Yet another inscription of Achyutadevamaharaja, dated in Saka 1462, corresponding to A.D. 1539 from Cuddapah District (*Jammalamadugu* Taluq), which records gifts of some lands were gifted to Buninayaka's daughter China Pemasani construction of a '*Nadu-bavi*' (stepped-well) by Mahamandalesvara Salakaraju Peda Tirumalayyadeva Maharaju, the Pradhani of the king, for the merit of his father Salakaraju.¹³

In Sadasiva Raya's (A.D. 1543-70) reign was also made efforts to encourage agriculture continued. An inscription of Sadasivaduva Maharaya dated in Saka 1477, corresponding to A.D. 1554 from Kurnool District, register's the '*Dasavanda grant*' of land in the village of '*Pedakallu*' to Mahamandalesvara Avubhala Raju for his having constructed the tank '*Konasamudram*' alias '*Srimannarayana-samudram*' to the North East of Alamuru.¹⁴

The defeat of Vijayanagara forces in the battle of '*Rakshasi –Tangadi*' (1565 A.D.) provided a great shock to the growing financial stability and economic prosperity of Vijayanagara State. Though the Empire flourished for another century it ceased to be a dominant power in the Deccan. The village *Kaifiyats* of the Andhra area state that for six years after the battle of RakshasiTangadi, anarchy reigned supreme. The capital was shifted to '*Penugonda*'. Sadasiva Raya continued to rule after the battle jointly with Tirumala (1566-72 A.D.), (brother of Ramaraya, who was the son-in-law of Krishnadevaraya). Tirumala was the founder of the Aravidu Dynasty. In 1570

A.D. he crowned himself as the emperor at Penugonda. He was the third usurper. After his death in 1572 A.D., he was succeeded by his son Sriranga-I.

The capital now being shifted to Penugonda, the inscriptions give the name of the ruling king and the place he was ruling from. What is remarkable is that in spite of the Empire being in the throes of economic and political turmoil, the rulers and the nobles continued to evince keen interest in promoting irrigational works. An inscription of Sriranga I (1572-85) dated in Saka 1498 corresponding to 1576 from Guntur District, records the allocation of land in the granting the village '*Kondepadu*' as Chalivendra Manya for constructing some wells supplying water to the '*watershed*' (Chalipandali).¹⁵.

Venkatapati Raya-11 was the most popular and capable king among the Araviti rulers. His rule of (1586 1614), brother of Sriranga I, was no less zealous in constructing works of public utility. In spite of political upheaval Venkata II has a few irrigational works to his credit. An inscription of Venkata II, dated in Saka 1534 corresponding to A. D. 1612-13 from Rapur (Nellore District) records that while Venkatapatiraya Deva Maharaya was ruling at Penugonda, Kumara Timmanayanivaru and Rudrappanayanivaru Caused a low-level sluice to be built for the village tank, as the former high-level sluice fell out of order.¹⁶. The latter monarchs of Vijayanagar do have some irrigational works to their credit but our survey ends with the reign of Venkata II. The Aravidu rulers like their predecessors gave greater importance to the maintenance of existing irrigation works.

An inscription of the reign of Sadasivaraya (A.D.1543-70) dated in A.D.1563 says in its closing lines of making a gift or maintaining (another's gift),

the maintaining is superior to giving, by giving *svarga* is obtained, by another's gift the feet of *Isvara*. Further many of the inscriptions enjoined that the land given for the upkeep of the tanks, the produce thereof could be enjoined in perpetuity.¹⁷

Those who undertook the work of repairing broken or breached tanks and other irrigation works were given either '*Dasabanda Manyas*' or '*Kattu Kodage grants*', according to which the person constructed a tank, canal, channel etc., in return for a permanent assignment of a tax exempted land irrigated by them¹⁸. The '*Dasavanda or KattuKodage*' grants might consist of wet and dry fields.¹⁹ Thus, during the reign of Achyutadeva Raya (A.D. 1530-42) we come to know from an inscription dated in Saka 1463 corresponding to A.D. 1541, from Madakasira in Anantapur District, that the *Gaundas*, *Chenna* and Timma Gaunda repaired the '*Tammadihalli*' village tank at their own cost, which had broken in three places. Their labour was justly rewarded in the form of a '*Kattukodage*' grant of land to be enjoyed in '*perpetuity*', by Tipparaja "*MahaArasu*", agent of Venkatadri Nayaka.²⁰

Another inscription of the reign of Devaraya I (A.D. 1406-22) dated in Saka 1330 corresponding A.D. 1408 from Tirumala Tirupati Devasthanam records that '*Madhavadasar*' alias '*Mallannagal*' (a resident of Chandragiri), renewed the old channel starting from the '*Mudari*' river to the tank in '*Avilali*' so that water could flow into the tank. He also constructed a new channel, thus levelling and cultivating 5000 *kuli* of land, thereby increasing the yield of the land, at his own cost.²¹

An epigraph from Madakasira Taluq, Anantapur District, dated S. 1407, i.e., 1485 A.D. of Saluva Narasimha's reign records that 'Bayarajadeva-Chola's son '*Rayaparaja*' Mahaarasu was said to have been given Narasimha Somayaji,

Prasanna Somayaji, and Lakshmana Somayaji land and the Sankaradevana- Kaluva channel on the condition that they convert the valley adjoining the field into a tank and name it Narasambudhi after the king.

Policy of Vijayanagara State to encourage Agriculture and Protect Peasantry:

The contemporary sources are providing details about the Vijayanagar State gave encouragement to agriculture, not only through the development of irrigation facilities, but by reclaiming virgin lands and bringing them under cultivation. As land tax was the chief income source to state treasury, the rulers recognised the necessity to develop agriculture to improve the economic resources of the empire. The kings developed new villages and brought new lands under cultivation through the *agrahara* grants to brahmins and through tax-concessions in the newly developed areas. Krishnadevaraya describes in ‘*Amuktamalyada*’ that it is the responsibility of the king to destroy the forests in the interior of the country, and give the reclaimed area to farmers to develop it.²²

Harihara I granted *kauls* (leases) to certain individuals and groups to clear the woods and develop agriculture in those areas and they were given certain tax concessions. Such agreements followed by land grants, were recorded in a number of villages in Cuddapah District²³. An epigraph from Pyalakurti in Kurnool region dated in 1310 A.D. records that one Narasimha granted the *reddirikam* of the villages Palakurti and Suraboyinipadu to one Timmireddi who colonised some families in the uninhabited tract of Yadavadurgam and Dhronachalam at the instance of the king. Three stone inscriptions from Anantapur district record leases of villages

restored on favourable terms by the chiefs governing them²⁴ All the three state that the cultivable lands of the villages were lying neglected and fallow and the leases were given on favourable terms to the *reddi*, *karanam* and the *samastaprajas* of the villages. The local records preserve several instances of concessions given to farmers cultivating the waste lands. One DodlontiRanganatha got the waste lands brought under cultivation in the villages of Talamancipattanam, Madhavapuram, Vuppalapadu, Gollapalli, Voddirala, Dannavada Kambaladinne, Dugganapalle, PeddaKomerla, Bondulapalle, Ganganapalle, Myapuram and Vyaparala. These peasants were given the concession to pay a rent of only two *rukas* per field and one-fourth *ruka* of *kavali* for the first eight years.²⁵

Not only in the new colonies, but in the fields irrigated by newly constructed tanks, concessional tax rates were implemented up few years. When Krishnadevaraya constructed a big tank near Nagalapur, he gave his subjects lands which could be irrigated by the water from the new tank free for a period of nine years until they had made improvements to their lands. When the taxations by the local chiefs became oppressive, or illegal exactions, which were unbearable to the people, were made by the local officers, people used to desert the villages and migrate to other areas. In such cases the king or his subordinates used to take initiative and invite the people to resettle in villages, offering then certain tax concessions. During the reign of Sadasiva, the people of Chyabala in Anantapur district²⁶ deserted the village because of their inability to pay the enhanced numbering many. Thereupon, the agent of Kundayadevamaharasu, to whom the area was given as '*amaramagani*', invited the people to return to the village, giving them concession not to pay taxes like *senbova-vartane*, fees to royal servants *kanike*,

kaddaya, the cess on marriages and other domestic festivals and other imposts for three years.

Another such instance is to be seen in *Kavutalasima* during the reign of Achyutaraya²⁷The populace fled to the neighbouring kingdom of Bijapur, unable to face the tyranny of the palace officials. When the treasury was empty, Mahamandalervara Salakadeva called people back to the region and convinced them to return to their villages. Farmers were given the option of paying only half of their output as tax to the palace officials, as well as being exempted from some other taxes and artisans from paying perquisites. Similar instances are recorded from other districts of the empire also²⁸.

Thus, the State tried to improve agriculture through various means, as it realised the importance of the prosperity of agriculture to the royal exchequer.

During Vijayanagara a Period the Rulers collected fine from Corrupt Revenue officials. This amount was donated to temples to construct or renovate tanks and canals, courts. Since the earlier historians have not concentrated much on these aspects, an attempt is made here to bring to light the cases of bribery, forgery and corruption in the revenue and judiciary administration, with the help of Telugu stone inscriptions and local records and to discuss the nature and magnitude of these crimes in relation to the social life of the people of Andhra region as well as its impact on the state administration.

To collect the taxes on lands, villages, merchandise and on different professions of the people the state had appointed officials who are referred to in the inscriptions as *sunkaris, sunkaravaru or sunkadavarumanyagandlu, manihagandlu*"

sunk manihagandlu, and *Hasanidyagandlu*.²⁹ Their duty was to collect the taxes from the people and to credit the same to the royal treasury. But sometimes out of greediness and for personal reasons, the tax-collectors exacted the taxes from the people without the knowledge of the government. During the time of Krishnadeva Raya, the *sunkaravaru* exacted the taxes like *katnam* and *sunkasthavaras* from the villages of Koppolu and Tippaluru without the knowledge of the government, in spite of the fact that they have been exempted from the payment of the taxes by the king. Owing to such corrupt practices of the royal officials and the heavy and oppressive taxes imposed on them many people have deserted the villages. Sometimes, the people approached the king his deputies-*Karyokarta*, or the local Ninola Chief and brought to their notion of the misrule of the state officials and the unjust tax collections made by them from the villagers.

An inscription³⁰ from '*Bhupatisamudram*' of Bellary district of the time of Sadasivaraya, dated A.D. 1556, mentions that on the representation of the villagers that unauthorised taxes were being levied by *manikagandlu*, *mahamandalesvara* Ramaraju Tirumalayyadeva Maharaju enquired into the complaint and remitted the taxes on the *Agrahara* village. It also states that the penal fee (*aparathampannu*) collected from the culprits was donated to the development of the canals and tanks of the temples. It is known from this inscription that the revenue officers, who were corrupt were punished by the state by collecting from them certain amount of cash as penal fee.³¹

Another record from the same district refers to the complaint of the villagers of Yelanji to *mahamandalesvara* Ramaraju Vithalaraju Tirumalayyadeva about the

illegal collection of money in the *agrahara* villages of Yelanji and Somalapuram by *Hasanidyagandlu*.³² On the complaint made by the people Ramaraju has got the office records verified and found from his enquiries, that these *agrahara* villages were given as *sarvamanyas*, i.e., free from the payment of all kinds of taxes and that the *hasanidyagandlu* (the state officials) were collecting the money from the villagers illegally.³³ The record also informs us that the fines collected from the culprits should be utilised for repairing the tanks and canals of the temple lands and the village.

On finding the corrupt practices of some of the officials, which caused a great loss and suffering to the people of the villages, the king or the *mahamandalesvraras* took initiative to provide some kind of solace to the people either by remitting the taxes or by granting the fee collected from the corrupt officers for the development of tanks and canals of the villages. In A.D. 1576 of the time of king Sriranga IV, Nagappa Nayaka, the *Karyakarta* of the king remitted the taxes payable by the merchants and weavers of the village, Amritaluru of Guntur District for three years, from the date of the issue of the record, i.e., A.D. 1576, on account of the plunder that the people have suffered by the *manyagandlu*. *Manyagandlu* were the persons who hold any *maniya* office, i.e., superintendence of temples, *mathas*, palaces, custom-houses, etc., As the *manyagandlu* were appointed by the state, it was the duty of the state to rectify for the losses caused to the people by their officers. As the corruption in the revenue administration was causing not only the desertion of the villages but also a great loss to the State revenue and the agricultural lands of the villages, the kings and the *Nayakas* have immediately enquired about the matters reported by the villagers.³⁴

The empire which had longevity of more than 300 years protected the religious freedom and the cultural integrity of the South. They showed extreme solicitude for the welfare of the people. This is clearly seen in the great interest they had taken in promoting agriculture and in creating all the facilities for its promotion. The Vijayanagara emperors had taken enough care to see that rain water was not wasted but properly conserved for the use of the land. This they did either by their own activity or through their agents. The beneficiaries of the noble activity were not only people who lived then but also their successors.

Sir Thomas Munro who rendered service in the rehabilitation of agriculture in the nineteenth century had the singular opportunity of covering most of the area under review. His official noting's are available in the Gazetteer. He writes 'Attempting to build new tanks is possibly a more fruitless endeavour than repairing those that have been full up, because there is barely any site where a tank can be made to benefit that has not previously been used for this purpose by the residents.

The following are some of the important irrigation works of Vijayanagara times;

Sl. No.	Name of the Tank/Lake/Canal/ Construction/ Ruler	Period / Year	Location	Source
1	<i>Bhukka Raya Samudram</i> ³⁵ 1364A.D	Ruler Bukka-I Chikka Anantrasa Udaiay Minister	Anantapur	S.I.1 Vol.XVI No. 63
2	<i>Porumamilla Tank</i> ³⁶	Bhaksara Bhavadura Son of Bukka-I & Governor of Udayagiri Rajya in	Badvel Taluq Kadapa	E.I. Vol.XIV, No.4. Cuddapah District

		1369 A.D(Saka-1291) 1369A.D		Inscriptions Vol-II, No.11
3	<i>Kamalapuram Tank</i> ³⁷	Devaraya-I 1386 A.D.	Kamalapuram	Kadapa District Inscriptions Vol. II, No.19
4	<i>Hindupur Taluq</i> ³⁸ Ananthapur District	Saka 1309 -1388 A.D. Polinayaka son of Maha Nayankaracharya	Hindupur Taluq, AnanthapurDist	S.I.I. Vol. XVI. No.14
5	<i>Hospet Tank</i> Bellary ³⁹ District	Harihara –II, Saka-1319- 1398 A.D. Near Prasannanjaneya temple by Ganapati Pandita’s two sons Virupaksha Pandita and Vinayaka Pandita	Hospet Bellary District	No. A.R.E 351 of 1935
6	<i>Bellary District</i> Hospet ⁴⁰	Devaraya-I Saka 1333- 1412 A.D.	Bellary District Hospet	A.R.E. No.25 of 1924
7	<i>Markapuram Tank</i> ⁴¹	Devaraya-II Mallaya Mantri 1441 A.D.	Kurnool	S.I. Vol. XVI. No. 33
8	<i>Immadi</i> <i>Narasimharaya</i> Tank ⁴²	Immadi Narasimharaya Saka 1416, 1494 A.D.		<i>IAP.</i> , Cud Part- II No. 53&54
9	<i>Madakasira Tank</i> ⁴³ District Ananthapur	Saluva Narasimha Raya	Madakasira Taluq	S.I.I. Vol. IX, Part-II, No, 472
10	<i>Nagulapuram Tank</i> ⁴⁴	Srikrishna Devaraya Saka 1438, 1516 A.D.	Hospet District	S.I.I. Vol. IX, Part-II, No. 504
11	<i>Atukuru Tank</i> ⁴⁵	Naddinadla Appa, Brother-in-law of Saluva Timmarasu 1516 A.D.	Guntur	E.I. Vol.IVI No. 12

12	<i>Gopinath Samudra</i> ⁴⁶	Krishnadeva Raya 1518	Guntur	S.I.I. Vol. IV, No. 702, S.I.I. Vol.XVI, No. 121
13	<i>Badvel Tank</i> ⁴⁷	Srikrishna Devaraya Saka 1448-1526 A.D.	Badvel Taluq Kadapa	A.R.E 35 of 1941-42
14	Tank near Gorepalle ⁴⁸ District Cuddapah Badvel Taluq	Achutadevarayapuram by Viranna Nayaka in Achyutadeva Raya's period Saka 1460-1538 A.D	<i>Achutadevaraya</i> -puram by Viranna Nayaka	No. 68 of A.R.E. 1912
15	Achyutadeva Raya Samudram ⁴⁹	Salakam Peda Tirumala brother-in-law of King Saka 1452-1530A.D.	<i>Sateenapalli</i> Taluq in Guntur District	No. 544 of A.R.E 1910
16	Achyutadeva Raya Samudram ⁵⁰	Saka 1462-1539 A.D.	<i>Jammalamadugu</i> Taluq Cuddapah	IAP, Cud, Ins. part-10.134
17	<i>Kondasamudra and</i> <i>Srimmannarayana</i> <i>Samudra</i> ⁵¹	Sadashivaraya granted Dasavandha grant to Mahamandalesvara Avubhala Raju in Pedakally Village in Saka 1477-1554 A.D.	<i>Sirvel</i> Taluq Kurnool District	S.I.I. Vo. XVI, No. 199

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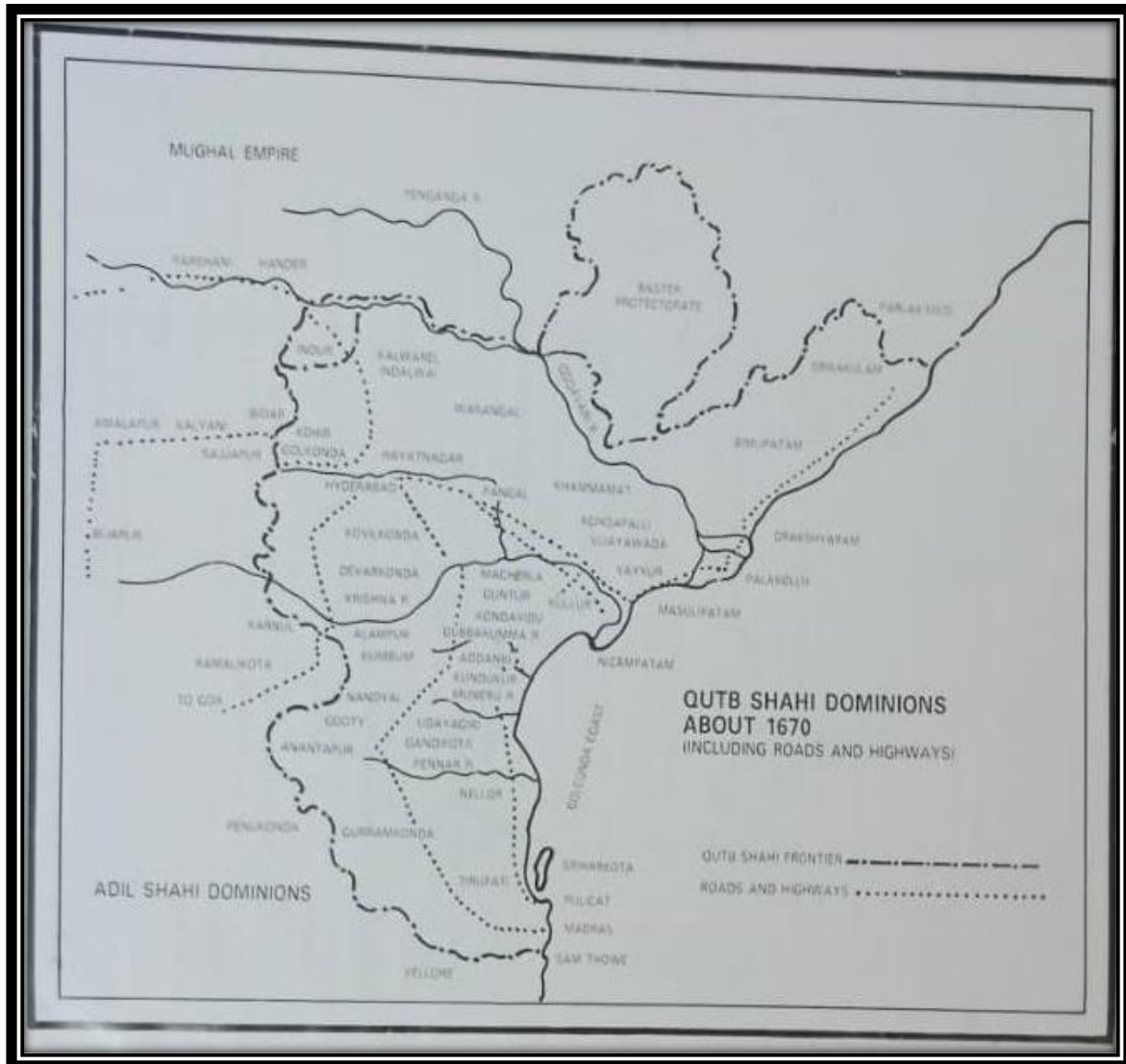
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CHAPTER-VI

SELECTED IRRIGATION WORKS OF QUTBSHAHI AGE



In the year 1518 A.D., Tarafdar of Telangana, Quli Qutbsh laid the foundation for the Independent Qutbshahi rule with Golkonda as his imperial headquarters. Thus, the Quli-Qutb Shah heralded the start of a new era in the history of the Medieval Deccan in general, and Andhradesa in particular.

Qutbshahis ruled Andhradesa between 1518 and 1687 A.D. and rendered remarkable service to the Telugu people and their culture. For nearly two centuries, the Qutb Shahis of Golconda ruled the eastern Deccan. The Kingdom's geographical boundaries extended beyond the present-day states of Telangana and Andhra Pradesh. It roughly matched the region ruled by the Kakatiya dynasty, who ruled over much of Andhradesa until 1323 A.D. The Telugu-speaking people saw political unification for the third time under the Qutb Shahis of Golconda, following the Sathavahanas and Kakatiyas. The grandeur of this dynasty lies in bringing about a cultural synthesis, and this age saw total understanding between Muslims and Hindus. They not only provided the required religious freedom, but they also associated with the indigenous religious beliefs and traditions.

They respected local practices and fostered the Hindu-Muslim Unity. They were the contemporaries of Vijayanagara, Gajapatis and sister Deccani Sultans of Ahmednagar, Bijapur, Berar and Bidar. They also maintained healthy cultural and external contacts with Persian rulers. They became role model to other rulers.

The Political History of Qutub Shahis

The Qutb Shahi Kingdom was founded in 1518 A.D. as the capital of Golconda in the Deccan region. This was one of the Bahmani empire's five states. Quli Qutb Shah was the kingdom's founder. After the downfall of the Bahmani empire, he declared independence in 1518 A.D. Mohammad Quli built the city of Hyderabad and made it his capital. The kingdom, which was ruled by secular ideals for the first time in the country, became the epitome of Hindu-Muslim unity and was home to the literary development of Telugu and Persian. During the rule of Qutb Shahis, Hyderabad was known as the Second

Egypt for its gold and diamond mines. In 1687 A.D., Aurangzeb, the Mughal emperor annexed the Golkonda kingdom, which was instrumental in the overthrow of the Vijayanagara Empire.

Sultan Quli-Qutb-ul-Mulk (1518–1543 A.D.)

QuliQutb-ul-mulk, popularly known in history as Sultan-Quli-Quth-ul-Mulk, founded the independent Qutb Shahi kingdom in the year 1518 A.D., at the age of 67. His ancestors hail from Hamdan (Southern Iran) in Central Asia. They belong to the Turkana tribe of QaraQoyunlu. His father was Sher Quli and his mother was Malik swaleh. "

Jamsheed Quli-Qutbshah (1543-1550 A.D.)

The last days of Quib-ul-Mulk were unfortunate, clouded with the struggle for the crown among his sons. The seven-year ruling period of Jamsheed was filled with wars, revolts, and confusion. He could not get the goodwill of the nobles or the public from the sultans of Ahmednagar, and Bijapur and the king of Vijayanagara attacked Golconda during his period. Sultan Jamsheed's short period of seven-year rule was significant in one aspect. He made an attempt to introduce sound administration. Kamaluddin Ardistan, also known as Mustafa Khan, was his capable minister. The posts by "Vakil" Mir-Jumlawere and Peshwa created for the first time during his period. Jamsheed died of cancer in the year 1550 A.D.

Ibrahim Quli-Qutbshah (1550–1580 A.D.)

In his classical work, *History of the Qutb Shahi Dynasty* (1974), eminent historian Haroon Khan Sherwani described the reign of Ibrahim-Quli-Qutb Shah as the kingdom at its height. This is true because the three decades of his rule had enhanced the glory of Golconda in every field. Muhammad-Quli-Qutbshah (1580–1612 A.D.) Muhammad Quli-Qutb Shah was the son of Ibrahim Quli-Qutb Shah. He was just fifteen years old when he inherited the throne of Golconda. He is best known for his monumental works on the history of mediaeval Deccan, he is best known for his grand works. He built Hyderabad, the Charminar, Jama Masjid, and Chandra Mahal. His Peshwa Mir-Momin-Astarabadi played a key role in his administration.

Muhammad-Quli-Qutbshah (1580–1612 A.D.)

Muhammad-Quli-Qutbshah was the son of the late Ibrahim-Quli-Qutbshah. He ascended the throne of Golconda at the young age of fifteen years. In the history of mediaeval Deccan, he is best known for his grand works. He built Hyderabad, the Charminar, Jamamasjid, and Chandramahal. His peshwa Mir-Momin-Astrabadi played a key role in his administration.

Muhammad-Quli-Qutbshah maintained a friendly relationship with the Mughal emperor Akbar. He made all possible attempts to protect his kingdom from internal revolts and external attacks. His officer at Kondavidu spoiled the attack of Vijayanagara forces led by Venkata-II. He developed a matrimonial alliance with Adilshahi Sultan Ibrahim-

Adilshah.Muhammad-Quli-Qutbshah invaded Vijayanagara territories and captured Kurnool, Gutti, Udayagiri, Gandikota and Penugonda. The Sultan also succeeded in suppressing the revolts of local chiefs and subordinates in coastal Andhra.

Sultan Muhammad Qutb Shah (1612-1626 A.D.)

He was Muhammad Quli's nephew and later became his son-in-law. Sultan Muhammad was an educated man with a strong religious bent and a bookworm. In 1617, he laid the foundation for the main mosque, Mecca Masjid, as well as the other structures that were not completed during his life-time.

Abdullah Qutb Shah (1626–1672 A.D.)

Abdullah Qutub Shah, Sultan Muhammad's son, assumed the throne at the age of 12 and was governed by his mother until he got to the age of 18. He had a free and happy existence. Despite the fact that the kingdom expanded during his reign, it was exposed to Mughal pressure. Golkonda was raided by the Mughals in 1636 and 1686, resulting in a large indemnity payment. On May 19th, 1672, he died.

Abul Hasan Tana Shah (1672-1687 A.D.)

Abul Hasan was the last ruler of the dynasty. Abul Hasan Tana Shah was Abdullah Qutb Shah's son-in-law. His other name was Tana Shah. He proved to be a capable king as

well as a stalwart defender against Mughal invasions. He is remembered as a kind and tolerant king who prioritised the wealth and well-being of his people.

QUTBSHAHIS IRRIGATION WORKS

Irrigation is of paramount importance to an agriculture-oriented economy like that in the former Golkonda Kingdom, Hyderabad State, Andhra Pradesh and present Telangana State. The arable lands in medieval times were irrigated either by rain water or by rivers, rivulets, tanks, wells, and canals. Of all these water sources, tanks played a significant role in the irrigation of the fields, encouraging the growth of gardens, sustaining the animals, and providing drinking water.

Taking a lead from the Kakatiyas and their subordinates, the subsequent Muslim rulers also encouraged tank irrigation at several places. We can see this in a few inscriptions that shed some light on the irrigation system of the time period in question. A stone inscription at Panugallu, datable to 1554 A.D., refers to the king Ibrahim Qutub Shah and states that his subordinate named Rahimat-Ullah repaired the dam across the river Musi near the village Namali in Indupura-sima, the present Ramannapeta and Nalgonda Taluks, and also brought into use the old canal which obviously fell into disuse, carrying the water to feed the tank named Udaya Samudram near Panugallu, Nalgonda.

Most of the '*Tatakas*' (tanks) built by the earlier rulers of Andhradesha continued to serve the needs of the farmers and other requirements of the public during the reign of Qutbshahis. In particular, in Hyderabad city and its neighbourhood, the Qutbshahi Sultans and their officials built many tanks. Among them, "*Hussain Sagar*" lake, "*Ibrahim Patnam*

*tank*¹ ", "*Mir-Alam Tank*", "*Patancheruvu*" tank, "*Masaheba tank*", "Sheik Pet Lake," "*Hayat Nagar tank*" in the present Telangana region have all played an important role in the development of agriculture.

Most of them serve the multipurpose needs of society. Their water was used for agricultural fields, drinking, and supplying water to a large number of 'Baghs or Gardens' built by Qutbshahi sultans and their officials in and around modern-day Hyderabad². Provincial officers were given the responsibility of maintaining tanks or wells by the Qutbshahi Sultans.

The Qutbshahi Sultans constructed a number of new cities, villages, mosques, *sarais*, *Ashurkhanas*, and built wonderful tombs. They also built or dug many wells or small ponds in these places. They served the purpose of drinking, feeding the gardens, and washing the hands, faces, and feet of visitors before Namaz³. The majority of people at this time were engaged in agriculture as their primary occupation. The Qutbshahi rulers, like the Kakatiya rulers, realised the importance of constructing and maintaining small and large irrigation works for agricultural activities. The rulers of Golkonda provided water facilities in the Telangana region. They constructed tanks and dug canals for major rivers.

The Qutb Shahi Sultans constructed several lakes both in the Andhra and Telangana regions for the growth of agriculture. The Qutb Shahi rulers constructed several lakes for irrigation purposes in Andhradesa.

1. MIRALAM TANK

It lies on one side of the Nehru Zoological Park, i.e., the South West of the city, and it is a piece of engineering skill. It was built by Mir Alam, who led the contingent forces of Nawab Nizam Ali Khan Bahadur Asaf Jah II during the war with Tipu Sultan in 1799 A.D. He was the great-grand father of Salarjung-1. From the handsome reward he received from the Nizam for winning the fourth Mysore war against Tippu Sultan in 1799 A.D., he commissioned the army to build it. The construction of the tank started in 1804. Its construction was supervised by Mr. Russell, an Englishman of the Royal Engineers, Madras Regiment. Its bund was constructed by French engineers. The tank was 8 miles in circumference and the dam alone cost Rs. 8 lakhs. The bund is 1,120 yards long and is made up of 21 huge granite arches that have been put on their sides with the semi-circular projection facing the river. The mile-long bund with 21 granite arches was dubbed the "Queen's Necklace." The tank is still in existence with a good water sheet and supplies water to the city and suburbs.⁴

2. HUSSAIN SAGAR

Hussain Sagar, also known as the "Tank Bund," was constructed on a Musi tributary during the reign of Ibrahim Qutbshah in 1562 A.D. The Balkapur River, which branches off from the Musi about 32 miles from Hyderabad, feeds the dam. The Hussain Shah Wali Bund connects the twin cities of Hyderabad and Secunderabad and is named after him. Hussain Sagar Bund is around eight square miles long and one and a half miles wide.

It was a large sheet of water that stretched eight square miles between Secunderabad on the north and Saifabad, a part of Hyderabad, on the south. It was constructed by Ibrahim Qutbshah in about 1575 A.D. at a cost of 2.5 lakhs⁵. It was the largest body of water in the sheet around Hyderabad. It was the main source of water supply for the Residency suburbs

north of the Musi River. On the east side of the bund, the ground was irrigated and cultivated. The lake is mostly fed by a 36-mile-long canal that originates from the Musi River⁶.

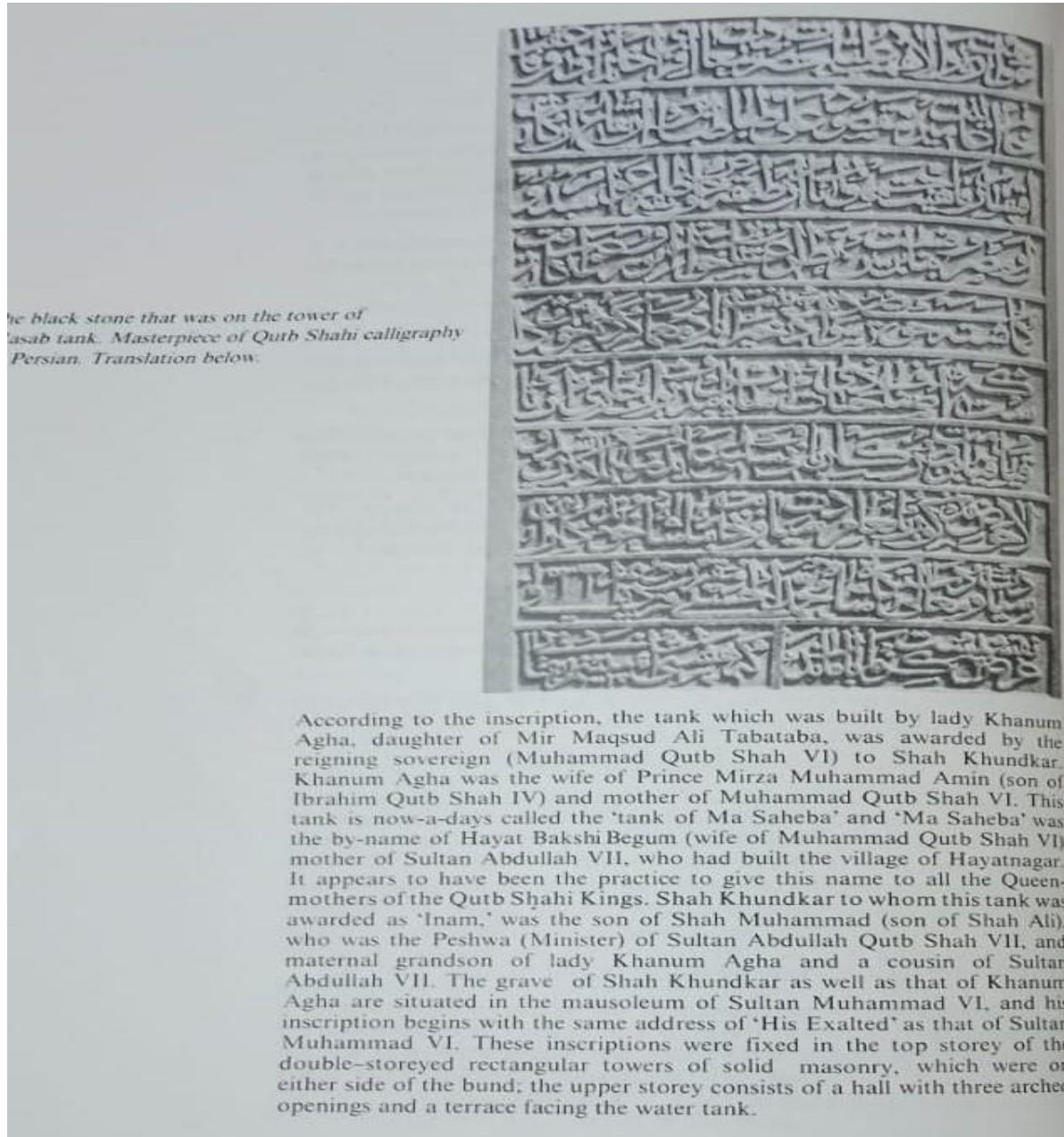
The following account of the bund's construction may be found in the appendices of *Our Faithful Ally*. " His Highness, upset that his hopes for the filling of the tank had not been met, commanded a nobleman of his court named Khaja Nek Nam Khan to construct a channel from the river Musi to the Hussain Sagar in order to fill it. Nek Nam Khan cut a small channel, paying for it with his own money, and succeeded in transporting water into the Hussain Sagar Lake. He intended to extend the channel and complete it, but he died before it could be finished. His Highness went on a pleasure trip to the "Hussain Sagar" lake one day and inquired about its name from the spectators.

Spectators said it was called "Hussain Sahib Cherroo." Indignant that his name had not been given to the tank, His Highness decided that another tank should be sunk. As a result, when he left, he went to Ibrahimpatnam and traced the outline of a tank so that it might be named after himself⁷. Hussain Shah Wali, a famous Sufi saint and Ibrahim Qutun Shah's son-in-law and Superintendent of Public Works, ordered the construction of the "Hussain Sagar" tank.

Ibrahim Quli Qutb Shah constructed two sarais on either side of the bund. There are four sluices on the Secunderabad side that control the level of water in the tank. Hussain Shah, Ibrahim Quli Qutb Shah's son -in-law, was charged with the construction and supervision of the lake. His tomb is on the Golconda-Bombay Road, and he is still known as Hussain Shah Wali. In his book *"Our Faithful Ally Nizam,"* published in 1865, Capt.

Fraser writes: It was customary for ancient Deccan rulers to keep a descendant of Khajah close at hand.

3. MAA-SAHEBA TANK



Hyderabad 400 Years Raza Ali Khan, Page-

There was a tank in Hyderabad which was generally known as the "Masab Tank."

The tank bund is completely dry and converted into a public park now. Many people believe

that this tank was built by *Hayat Bakshi Begum*, as she was called "Maa Saheba." But it was not built by *Hayat Bakshi Begum* but by *Khanum Agha*, the daughter of Mir Maqsud Ali Tabataba. Khanum Agha was the wife of Mirza Mohammed Amin and the mother of Mohammed Qutb Shah. We know this fact by the epigraph that was engraved on the two towers on both sides of the tank bund. They were 18x26 12 in size and in Naskh script⁸. A mud bund was constructed over it to stop the water. Its catchment area was the Banjara Hills and Jubilee Hills areas. The black stone that was used in the construction of the tower of Masab Tank even today stands as the perfect symbol of excellent Qutb Shahi calligraphy in Persian.

According to the inscription above, the tank, which was built by Royal Lady Khanum Agha, daughter of Mir Maqsud Ali Tabataba, was awarded by the reigning sovereign Muhammad Qutb Shah VI to Shah Khundkar. This tank is now-a-days called the tank of Ma Saheba, and "Ma Saheba" was the by-name of Hayat Bakshi Begum (wife of Muhammad Qutb Shah VI, mother of Sultan Abdullah Qutb Shah), who built the village of Hayathnagar. It appears to have been the practise to give this name to all the queen mothers of the Qutb Shahi Kings. Shah Khundkar, to whom this tank was awarded as "Inam", was the son of Shah Muhammad (son of Shah Ali), who was the Peshwa (Minister) of Sultan Abdullah Qutb Shah VII, and the maternal grandson of Lady Khanum Agha, who was a cousin of Sultan Abdullah VII. The grave of Shah Khundkar as well as that of Khanum Agha are situated in the mausoleum of Sultan Muhammad VI, and his inscription begins with the same address of "His Exalted" as that of Sultan Muhammad VII. These inscriptions were fixed in the top storeys of the double-storeyed rectangular masonry towers on either side of the bund; the upper storey consists of a hall with three arched openings and a terrace facing the water tank.

4. IBRAHIMPATNAM TANK

Ibrahim Qutub Shah constructed this tank⁹. This bund was built in a hurry because the Sultan ordered it to be finished as soon as possible. The bund of this tank is equal to the size of the bund of Hussain Sagar in Hyderabad, but its storage capacity is only half that of Hussain Sagar. The area below the tank is still irrigated today, and paddy is grown in abundance. The tank is capable of irrigating 1,209 acres of land. The present extent of land under irrigation is 950 acres¹⁰.

5. SHAH HATIM TANK

During the reign of Ibrahim Qutb Shah¹¹ Hatim Tank was constructed. Shah Hatim Tank was constructed outside the Golconda fort and is situated in the north-eastern part of the fort. The water from this tank was used for irrigation, defence (*moat*) and drinking purposes. Its water was let off into the moat of the Golconda fort. The tank was capable of irrigating 76 acres and 30 *guntas* of land. But the land under cultivation at present is only 22 acres, since three hundred dwelling units have come up in the tank area¹².

6. THE LANGER HOUSE TANK

This tank was also constructed by Ibrahim Qutb Shah¹³ for irrigation of lands, for cattle rearing and for defence purposes. It is situated near Fatedarwaja and this tank receives its water from the present Apollo Hospital Hills area and Hakimpet. This tank's water was used to fill the moat of the Golconda Fort. About 5 years back, the area under this tank was 33 acres and 11 *guntas*. Now, cultivation has been banned as it came under the control of the municipality.¹⁴

7. MAA-SAHEBA TANK IN HAYATHNAGAR

This tank was built on the highway of Nargarjuna Sagar, at a distance of 8 miles from Hayatnagar and 15 kms from Hyderabad city. Gulam Hussain Khan in Gulzar-e-Asafia (Persian) clearly writes that Hayat Maa Saheba had built a tank near Hayathnagar¹⁵.

8. MIR JUMLA TANK

It was constructed in 1625 A.D. by the celebrated Qutub Shahi officer, Mir Jumla. It was situated to the east of the city in the Yakutpura suburb. Most of the water used in the city was supplied from this tank in those days. But now it is in a very insanitary condition. The tank used to get its water resources from Falaknuma Hill, Chandrayanagutta, Bandlaguda, and Uppuguda areas. Houses have now been constructed in the tank's bed.

9. DURGAM CHERVU

A little distance from the Golconda fort, on the north-western side of the hillocks, is a beautiful tank. Locally, this is known as DurgamChervu. It was constructed by Sultan Quli, the founder of the Qutb Shahi dynasty. In fact, this magnificent tank served as the main source of water for the Golconda fort. The bund of the tank was built of granite stones and painted with lime mortar. The bund was constructed at a narrow point connecting two hillocks on the east and west. On both sides of the bund, the excess water flows out through the vents into a channel constructed with granite slabs. The channels are approximately 3 miles long, 2 feet wide and 2 feet deep¹⁶. It enters the Qutb Shahi tombs after covering a distance of about 2 miles. The main branch directly touches the Golconda fort, and a small branch is diverted to the Qutb Shahi tombs for supplying water to the gardens planned around the tombs. The water was also supplied into the cisterns of the royal *hummam*, where the dead bodies of the kings were given the ceremonial bath. According to an

inscription found Sultan Abdullah Qutb Shah's reign, the repairs to the channel were attended to. From this tank, water was supplied for the irrigation of land just below the Jubilee Hills, which is now called the Darga area. During the 17th and 18th centuries, its water was supplied to Qutb Shahi tombs and gardens through the channel. The tank is capable of irrigating about 180 acres of land.

IBRAHIM BAGH TANK

Numerous tanks were constructed in Telugu country by Ibrahim Qutb Shah, the powerful Sultan of the Qutb Shahi dynasty. The Ibrahim Bagh tank is located on the Golkonda fort's western side. The tank was constructed by Ibrahim Qutb Shah. The tank and gardens there are known as Ibrahim Bagh. The tank is situated at a high altitude. Nekhnampur, Alijapur, and Sheikpet villages were its catchment areas¹⁷. The water from this tank was extensively used for the maintenance of the gardens and also irrigation. Not only in the 17th and 18th centuries, but today also, farmers are cultivating paddy under this tank. The present extent of land under cultivation ranges from 60 acres to 100 acres.

The below given table depicts the important irrigation projects undertaken by the Qutbshahi rulers in Andhradesa.

SI. No.	Tank or Lake Name & Place	Name of the Sulthan/Subordinate	Period	Location of Tank	Tank Capacity/Bund	Acres Irrigation area	Catchment area	Purpose
1	Durgam Cheruvu	Sultan Quli Qutbshah	1512-1543 A.D.	Golkonda Fort (North West side)	Bund built by granite stones and painted	180 Acres		Main source of water to the

					with lime mortar			Golkonda for and gardens of Qutubshahi tombs.
2	Ibrahim Bagh Tank	Ibrahim Qutbshah	1550-1580 A.D.	Golkonda Fort (Western side)		60-100 Acres	Nekhna mpur, Alijapur , Shaikpet	Exclusively used for gardens and irrigation
3	Shah Hatim Tank	Ibrahim Qutbshah	1550-1580 A.D.	Outside of the Golkonda Fort (situated north-east of the fort)		76 Acres 30 Guntas		Used for irrigation, defence (Moat) and Drinking
4	Langer house Tank	Ibrahim Qutbshah	1550-1580 A.D.	Fateh Darwaza		33 Acres	Hakim-peta	Used for irrigation, defence (Moat) cattle rearing
5	Hussainsagar Tank	Ibrahim Qutbsha's period. Hussain Shahwali (Sufi Saint) looked of the construction	1575 A.D.	Saifabad (Lake is fed by a canal from Musi River				Water supply for Residency and suburns north of musu river. Noble man of his court Khaja Neknamkhan constructed a canal from Musu river.
6.	Ibrahimpatnam Tank	Ibrahim Qutbshah	1550-1580 A.D.		Bund was constructed by mud in haster	1209 Acres present	950 acres	Drinking water supply
7	Maa Saheba Tank (Masab Tank)	Khanum Agah Daughter of Mir Maqsood Ali Tabataba			Mud bund		Banjara Hills and Jubilee hills	Epigraphs that were carved out on the two towers of

		(Mother of Mohammad Qutubshah						bund (Naskh Script)
8	Maa Sheba Tank	Hayat Maa Sahiba		Hayatnagar Highway of Nagarjunasagar		11.64 sq.miles		
9	Mir Jumla Tank	Mir Jumla (Officer of Qutub Shahis period)	1625 A.D.	Yakutpura (East side of the city)		Falaknuma hill, Chandrayan gutta, Bandlaguda , Uppuguda		
10	'Udayasamu dram' (Panagal cheruvu)	Ibrahim Qutbshah	1550- 1580 A.D.		Repairs were executed to the bunds in 1551.Sluice constructed			

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CHAPTER-VII

IRRIGATION WORKS, CONSTRUCTION AND MAINTENANCE IN MEDIEVAL ANDHRADESA (1000–1687 CE)

During the period under study, the rulers, their officials, and society have taken a special interest in protecting and maintaining the irrigation works. The careful study of contemporary inscriptions and literature of the period gives a clear idea of the different measures taken by the Kakatiya, Velama, Reddi, and Qutbshahi rulers in Andhradesa to maintain the irrigation works of earlier times as well as the newly constructed tanks, wells, canals, etc. These efforts by all the mediaeval rulers succeeded in bringing new lands under cultivation, increasing state revenue, and improving the living standards of the peasantry.

Ancient and early medieval rulers also placed great stress not only on the construction of irrigation works but also on their proper maintenance. According to a popular saying, a couple who are not blessed with children can get bliss or salvation by constructing a new well, tank, or canal or by repairing the existing one. Religion was also very important in people's socio-economic lives. The policy of attaching religious merit to the construction of works of irrigation produced good results.

The inscriptions of the Kakatiyas and their successive rulers give very interesting details about the various measures taken by Velama, Reddi, and Vijayanagara rulers to promote agriculture by constructing new tanks and canals,

and also by making proper and planned arrangements for their repair and maintenance. Velama rulers constructed and made donations to local village-level staff for the maintenance of public works. The Reddy rulers during the period of their rule over Andhradesa took all measures to maintain and repair the existing irrigation works. The Reddis of *Kondavidu* and *Rajamahendravaram* continued the same spirit or methods. The Reddy rulers during the period of their rule over Andhradesa took all measures to maintain and repair the existing irrigation works. Harihara I and Bukka I established the Vijayanagara Kingdom in 1336 A.D., ushering in a new era in the political, socioeconomic, and cultural history of South India in general, and Andhradesa in particular. The Vijayanagara Kings, their officials, temple authorities, and guilds made elaborate arrangements for effective measures to bring the new land into cultivation by improving irrigation facilities.

The Rayas of Vijayanagara laid great emphasis on the propagation of the Hindu faith. Hence, they made many grants to local temples, Brahmins, and masons to take up irrigation work. They also used religion as a springboard for instituting irrigation projects. The excavation of tanks was mentioned in an inscription dated A.D. 1538–39 as one of the "*Saptasantanas*," or seven acts of religious merit production¹. Two epigraphs dated 1519–20 and 1520–21 of Srikrishnadevaraya's period from the Nellore region also refer to the construction of two tanks by *Rayasam Kondamarasayya*, an officer of Srikrishnadevaraya, for the religious merit of his parents, "*Timmarasumagaru*" and "*Sankayamma*," "*Kaluvai*" tank, and "*Ananta Sagaram*" tanks².

The Vijayanagara rulers took a special interest in improving the irrigation facility for agricultural fields. They considered that the sound economy of the state would always depend upon the quantum of land revenue received from the peasantry. But they never followed the oppressive methods of collecting the land revenue. In his monumental work, *Amuktamalyada*, Krishnadeva Raya explains the importance of agriculture and the need for proper irrigation facilities to be extended by rulers³.

“దేశసౌభాగ్యమరసిద్ధికినిమూల
మిలయొకింతైనకుంటకాల్వలరచించి
నయముపేదకు, అరి, కోరుననునొ
సంగిప్రబలచేసినార్థధర్మములుపెరుగు”
DeshasowbhagyaMarasiddhikini Moola
Mila Yokinthaina Kunta KalvalaRachinchi
NayamuPedhaku Ari korunanuNosangi
PrabhalachesinaArthaDharmamuluPerugu

A careful study of the source material related to the Vijayanagara period gives excellent information about the measures taken by kings, their officials, and temple authorities to improve the irrigational facilities.

A large number of epigraphs of Vijayanagara Kings and their officials contain references to the irrigation works of their age, their construction, and

measures taken by them to construct, maintain, and repair them by extending various concessions, gifts to mason's workers, etc.

An epigraph dated Saka 1286, corresponding to A.D. 1364 from Anantapur District (same Taluk), records the construction of a great reservoir called the "Bukka Raya Samudram" by "ChikkaAnantarasaUdaiyar," the minister of Bukka Raya- I⁴. A Telugu manuscript translated by Mr.C.P.Brown and published in English under the title "*Wars of the Rajahs*" relates the story of its construction and of the sacrifice of a girl that accompanied the erection of the embankment.

An inscription⁵ from 'Badvel Taluq' in the 'Cuddapah' region, dated Saka 1291, corresponding to A.D.1369, describes the construction of a massive tank at 'Porumamilla' by Bhaskara Bhavadura, son of Bukka-I and Governor of the "Udayagiri" Rajya. The tank features numerous sluices, and the inscription further indicates that 1,000 labourers were employed throughout the construction process over a two-year period. A hundred carts were employed to transport stones for the walls, which were part of the masonry construction, and the entire project took two years to complete. The tank was 5,000 "rekhadandas" long, eight rekhs wide and seven high. The tank is located in the *Sakila Dasa*, to the south of *Srisailam*, two *Yojanas* east of *Ahobala*, to the north of '*Siddhavatha*,' and to the west of *Udayagiri*. The study of the "*Porumamilla*"⁶ epigraph provides evidence of the interest shown by rulers in the principles to be followed in the construction of the tank.

The Ponumamilla epigraph, it contains twelve essential principles (or Sadhands) to be followed with great care as per the Sastras, who even construct a new tank, namely.

1. A King (who takes on the task) is blessed with righteousness, wealth, and happiness,
and the desire to amass the inexhaustible treasure of fame.
2. A brahman studied hydrology, which is the science of water.
3. The ground of hard soil must be selected as the perfect site for the construction of a tank.
4. From a distance of three yojanas, a river carrying pleasant water enters a recently constructed tank.
5. It is in contact with two proposed segments of hills.
6. The tank's bed must be large and deep.
7. A stone quarry with both straight and long stones
8. In the tank's immediate vicinity is a fertile low land.
9. In the alpine region, a water flow features significant eddies.
10. A stone dam or embankment between the projected portion of the hills,
which is not too lengthy but sturdy.
11. The hills' two ends are bereft of fruit-bearing land (Phala Sthira).
12. Finally, a group of expertise in the art of the construction of permanent tanks.

The epigraph also described the six faults or *dosas*, to be avoided, which are also mentioned in it. They include:

1. Water leaking from the constructed tank
2. Salty soil

3. Its location on the dividing line between two kingdoms
4. A tank bed with a raised centre.
5. Inadequate water supply and a large area of land to be irrigated
6. Inadequate irrigated land and an excess or oversupply of water



PORUMAMILLA TANK



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Porumamilla Lake, in Kalasapadu in the Kadapa district, has been around for more than 500 years. According to Irrigation and Water Department records, the lake became famous after an inscription was discovered in 1903. The lake was established during the reign of Bhaskar (Bhavadura), the son of the first Bukkarayalu of the Vijayanagara empire, when he was the ruler of the Udayagiri kingdom, according to the '*Porumamilla* inscription'. The lake has a total surface area of 3,864 acres.

The *Porumamilla* epigraph was written by an expert per the guidelines stated or given by Prince Bhaskara Bhavadura. This study of the above details makes it very clear to the person that those who are going to build a new tank, canal, or well must follow the principles of *laksanas* laid down by ancient experts. The *porumamillatank*, which is still in use and supplies water to agrarian fields, stands as a solid example of the excellent engineering skill of those times. This tank is presently located in the Badvel Taluq of the Cuddapah district. The overall population of the village is 16201, as per the 2011 census.

Even today, the tank is in good enough condition, and nearly 2,500 acres of agricultural land are under cultivation. From this inscription, we come to learn that the king and his members were very much interested in the welfare of their subjects, i.e., peasants. Another epigraph from Kanigiri⁷ (Nellore District) dated S. 1316, i.e., 1393-94, states that (Devaraya- I) for his father, Harihara II's religious merit.

Based on the data collected from the above epigraphs, it can be concluded that the nobles, the subordinates and feudatories, the priestly class, and the common people all contributed their share in promoting irrigational facilities. During the

reign of Harihara II, A.D.1377–1404, a certain Bhatta (Bard) 'Bacheppa' constructed the *Bukkaraya Samudra*, the '*Kirtti Samudra*', the Male '*Nagavve*' and '*Bachappa*' tanks, and the "*Chandappa*" channel.

Devaraya (1406–1422 A.D.) introduced the new policy of involving the common public in an active way in the construction of irrigation works. He was the initiator of the "*Dasavanda System*" as recorded in an incomplete inscription⁸ dated Saka 1308 (corresponding to A.D. 1386) from *Kamalapuram Taluq* in Cuddapah district. The inscription markedly refers to Harihara II's son Devaraya, who had been appointed as Governor of the Udayagiri Rajya in A.D. 1370.

SaluvaImmadi Narasimharaya's (1493–1505) son, Narasanayaka, son of Kasavinayaka, created a canal named Katukaluva in remembrance of his mother, Kaveramma, according to an inscription from Pulivendula Taluq, Cuddapah district, dated 1494 A.D.

Devaraya, I introduced the "*Dasavanda System*" to provide a new boom to increase the irrigation facility to farmlands. The inscription recalls a particular Irugama-Reddy Maramareddi's construction specifications for the southern tank, stating that the *Prabhu manyawas* one *putti*, '*Dasavanda*', "*Parubadi*" two "*tums*" per "*putti*," and a share (was to be given) to the deity and brahmins. This Inugama-Reddi Maramareddi not only got the tank constructed but also ensured its maintenance and repair⁹.

The information found in contemporary sources reveals that for constructing works of irrigation, incentives were given by the government to the people concerned. These incentives took the form of *Dasavanda* grants of land. The

individual would agree to construct a tank in return for the permanent assignment of a piece of tax-free land watered by the tank. The *Dasavanda* grant might consist of wet and dry fields.

The extent of land offered as remuneration for the construction of a tank was large. Thus, during the reign of Sadasiva Maharaya (1543–70 A.D.), *Paramkura Vam Sathagopa-Jiyya*, the trustee of the temple, *Hariharanadhuni Peddayya*, the agent of Mahamandalesvara Aliya Ramappayya, and the *adhikam-varu* gave to *Mahamandalesvara Avibhalaraju* a *Desavanda* grant of land in the village of Pedakallu for constructing the huge tank *Konasamudram* alias *Srimannarayana Samudram* to the north-east of *Alamuru*. This is made known to us from an inscription dated Saka 1477, corresponding to A.D.1554, from Sirvel Taluq in Kurnool District¹⁰.

In the Vijayanagara period, along with the "*Dasavanda System*," the "*KattuKodagi*" grants were also referred to in the epigraph. The words "kodagi" or "kodage" mean a gift or grant, usually of a piece of land, free of rent. "*KattuKodagi*" denotes a Kodagi granted to a person or persons as a reward for constructing a tank or some other public building. This appears to be identical to *Dasavanda*¹¹.

The mediaeval rulers, local officials, guilds, and temple authorities took special care to maintain the various forms of irrigation work. They made special efforts to desilt tank beds, maintain bunds, repair sluices, and guard tanks, dams, and canals. The *dasavanda* grants were given to people who took care of these tasks.

The inscriptions from Karnataka describe how "*Chamarasa*" and the temple priests provided the funds and entered into an agreement for the construction of the

tank to the east of the town. The inscription indicates the cordial relationship between the temple priests and the villagers, desiring to promote the welfare of the people¹².

Besides the "*Dasavanda System*" and "*KattuKodage*" grants of land, references are found about grants of land made to "perpetuate the Hindu faith". These lands were divided into

1. "*Devadaya*" lands
2. "*Brahmadaya*" lands
3. *Sarvamanya* lands

These grants, as indicated by numerous inscriptions, came in the wake of the Rayas. Introduction of the "*Dasavanda*" system This policy of the Rayas took every perspective into account for better irrigational facilities.

The "*Devadaya*" grants were made to the temples to perform daily worship to the deities to whom they were dedicated. Thus, we find inscriptions during the Vijayanagara period which record grants of land made to the temples. An epigraph from *Markapur Taluq*, Kurnool District, dated S.1363, i.e., 1441A.D., gives interesting information. According to it, *Mallanaraya* or *Mallya Mantri*, son of "Timmaya Mantri," who was the son of "Narahari" of "Udayagiri in Karnataka¹³," built a tank and granted some land in "*Mainadanapadu*" for a flower garden to the deity "*Tripurantaka*.". Further support of this policy of dedicating works of irrigation to the deities can be found in the inscriptions from "Tirumala Tirupati Devasthanam".

According to an inscription from Tirupati¹⁴, dated A.D. (1469) of King Virupaksha-II's age, states that Adiraju, a subordinate of King Viruprakash-II, donated 1,000 Panam in the form of cash for the daily pooja expenses to Lord Srivenkateshwara. The temple authorities utilised this amount to construct a tank at *Kalidhirama Mangalam*.

Another incomplete epigraph from *Sattennapalli Taluq* (Guntur District) dated 1530 A.D, states that during the reign of Achyutaraya Maharaya, his brother-in-law Peda Tirumalayyadeva Maharaja had a tank built and a garden laid near it and granted both of them to the deity 'Gopinatha' of 'Velupalem' in 'Kondavidu'. In the very first year of "Achyitadeva Maharaya¹⁵"

If the deities were to be propitiated, so were the "*Brahmins*," who were the custodians of the Hindu faith. Thus, Brahamadaya grants were made. The Brahmadaaya is a donation or perk that belongs to Brahmins¹⁶. Such gifts were frequently in the form of land, either tiny plots of land or entire communities. The latter were known as '*Agraharas*' and '*Srotriyas*,' and were given to Brahmins as a reward for their wisdom or to enable them to transmit religious and secular knowledge to the community's younger members.

This generous gesture was an incentive to the common man to build more irrigational works, which ultimately led to the enhancement of revenue. Krishna deva Raya was a ruler who sought the welfare of his people. From an inscription dated Saka 1438, corresponding to A.D. 1516, from Hospet in Carnatica, we come to know that the king's purohita, "Ranganatha Dikshita," received amanya (tax-free) village from the king and caused the construction of a huge lake called

"*Nagasamudra*", after the name of Naguladevi, the king's mother. "*Ranganatha Dikshita*" made the village an *agrahara*, giving it the name "*Nagaladevi puram*"¹⁷.

The *Kaifiyats* (village records) credit the kings of Vijayanagara for devoting their attention and resources to the welfare of the people. From the Kaifiyat of *Kanala*, we come to know that the Queen Mother, "*Nagamma*," constructed a tank at a small village where she halted on her way back from "Tirupati." She granted the village of *Kanala* as an *agrahara* (tax-free village) to Brahmins, renaming it "*KrishnarayaSamudram*" after her son¹⁸. The holders of the *Devadana* and *Brahmadaya* grants of land had to pay the government every year a low quit rent called "*jodi*" or "*Srotriya*". All the Rayas of Vijayanagara sought to increase the revenue of the empire. Hence, they encouraged private enterprises in agricultural development activities.

This system of making grants of land to people and religious institutions encouraged private enterprise to a great extent. From the above inscriptions, we come to know that it was the individual or individuals who undertook to construct tanks and that the government played a minimal role in constructing these works of public utility.

The Rayas of Vijayanagara laid great emphasis on the propagation of the Hindu faith. Hence, they made grants of land to those who perpetuated the faith. The construction of irrigational works to water the lands was inextricably linked with the land grant policy. The temple was the centre of the entire socio-economic activity. The local deity was to be propitiated by dedicating work to irrigation and making grants of land to ensure economic prosperity. The Rayas of Vijayanagara

used religion as a springboard for instituting irrigation projects. It was also described in an inscription dated 1538–39 A.D., that the excavation of tanks was included in the "*Saptasantanas*," or the seven acts productive of religious merit¹⁹.

Thus, from two inscriptions²⁰ during the reign of Krishnadevaraya from Guntur District we come to know about the emphasis laid on works of merit, one inscription dated in Saka 1441 corresponding to A.D. 1519-20 from *Atmakurin* Nellore District, refers to a certain Rayasam Kondamarasu who got the *Kaluvayi* tank excavated for the religious virtue of his mother Sankayammagaru and father TimmarusuGaru the other inscription recorded at a later date, from the same place in Saka 1444, corresponding to A.D. 1521-22 refers again to Rayasam Konda Marusugaru as the agent (*Karya-Karta*) of the Raya who constructed a tank at *Ananta Sagaram* for the religious merit of his parents.

The construction of irrigation works for the religious merit of a person was lauded as an act of charity. It was highly commended. "As a tank's water nurtures both moveable and immovable creatures on the ground, even Brahma is unable to record the merit arising from it," it is said. Thus, during the reign of Achyutadeva Maharaya, we come to know from an inscription²¹ dated Saka 1461, corresponding to A.D. 1539, that *Bayakara Ramappayya*, one of the officers of Achyutadeva Maharaya who was administering the Kondavidu division, constructed a huge tank called Hiriya "*Lakka Samudram*" in the name of his mother, *Hirya Lakkarasamma*. The tanks were built as a result of the efforts of *Achyutamma Samudra*, *Bachasamudra*, *Ramasamudra*, *Akkasamudra*, *Kamasamudra*, *Amma Samudra*, *Virasamudra*, *Achyutendra Samudra*, *Venkatendra Samudra*, *Pinna-*

Lakkasamudra, and others, according to the inscription. As a result, he built 17 large tanks as part of his numerous "charities."

The emphasis on constructing works of irrigation as an act of charity is further borne out by an inscription from the reign of Venkata II (A.D.). The inscription²², dated Saka 1509, corresponding to A.D. 1586-87, from Darsi in Nellore District, records that a certain Timmanayanigary, in a charitable act, caused the Tellamagadda tank to be built, giving a *kuchchala* (a field measuring 8 *gorrus*, or about 25 acres) for the tank's upkeep. It further states that no one should obstruct this charity by levying a grazing fee on this field or a tax for the use of the tank water.

The Rayas of Vijayanagara gave priority to the defence system. To possess an efficient army, he divided a part of his country among his Nayaks, who in return had to provide him with men and money. Nayakas, or officers of the King, were apportioned land on condition of military service. They held this land at the pleasure of the king. The only way to raise money for the king was to tax agricultural produce, and irrigation works had to be built to encourage and develop agriculture.

The Rayas of Vijayanagara were certainly clever in shifting the burden of constructing irrigation works onto the shoulders of the Nayakas. To their credit, the Nayakas rose to the occasion. An inscription by Bukkana Odeya, dated Saka 1315 (expired), corresponding to A.D. 1394 in Punganur Taluq in Chittoor District, refers to his role as Governor of the Mulavayirajya and records the grant of some money by Balpa Nayaka to a certain Gauda for the construction of the *Kannegare* tank at *Arekere* in Hulinadu²³. These Gaudas were instrumental in enhancing the economic

prosperity of the state. The Nayak was instrumental in getting irrigation works constructed in the far-flung Tamil regions where the Nayaka were given greater jurisdiction. From an incompletely dated inscription of Devaraya Mahalaya from *Tiruttani* Division in *Chittoor District*, we come to know that the lake Putteri at Koraimangalam was dug by Venkata Nayaka, a Malayali of TavakkavurKunram, and that the sluice to it was the gift of his wife, Sa (nta) IIsani.

People from all walks of life pitched in to help build the irrigation system. From the nobility down to the common man, all evinced a keen interest in the prosperity of the empire. All of the officers under the Rayas were extremely enthusiastic about promoting public works projects.

Thus, we learn from an inscription dated Saka 1440 (corresponding to A.D. 1518) in Narasaraopet Taluq in Guntur District that one Rayasam Kondamarusayya, son of Saluva Timmarasayya, the *Sirah Pradhani* (Prime Minister) of *Krishnadeva Raya* and *Sri-Magayamma*, was responsible for the construction of the massive tanks, Timmasamudra and Kondasamudra. Private initiatives always received encouragement, either in the form of monetary aid or grants of land. During the reign of Saluva Narasingaraya Maharaya, an inscription dated Saka 1407 (A.D. 1485) records that Rayaparaja, son of Bayarajadeva, gave land and the Sankaradevan Kaluve channel to Narasimha, Prasanna, and Lakshmana Somayaji, sons of Dasagranthi-Narasimha Somayaji of Asvalayana-sutra, Kasyapa Gotra and Rik Sakha convert the valley adjacent to the field into a tank and name it Narasambudhi after the after the king's name (mentioned) and allot a portion The land was in the Rayadurga Sthala, in Agali.

In an inscription from the reign of Immadi Narasimha, dated Saka 1415, we discover evidence of the priestly elite actively engaged in the construction of public buildings, corresponding to A.D. 1493, which records Kumara that Kumara Tattayyanagar (one of the Acharya Purushas of Tirupati) donated a large sum of 5,000 *panam* for the excavation of tank-fed channels. He also excavated a tank in Tirupati (which is now called Tatayyagunta) situated in the northern part of Tirupati.

The inscription brings out the importance given to the regulation of the water supply, so that vast areas of land could be irrigated. Yet another inscription from Tirumala Tirupati Devasthanam of the reign of Krishnadevaraya dated Saka 1439, corresponding to A.D. 1517, records that the merchant class also extended their financial aid to the construction and maintenance of tanks. Thus, a certain, one of the merchants residing in the suburb of Narasingarayapuram in Tirupati, excavated an irrigation tank and levelled the Pallam land situated below the said tank in Tirammneri, or temple village, and gave 14,590 Nar Panam to the temple treasury to use for tank and channel improvements.

Besides the inscriptions and village records, we also have the accounts of the Portuguese travellers Domingo Paes and Fernao Nuniz, who visited the Vijayanagara empire and recorded the construction of a huge irrigation tank or dammed up lake at the capital (Nagulapura), which the king (Krishnadevaraya) had constructed with the aid of Joao Della Ponte, a Portuguese engineer whose service was lent to him by the Governor of Goa. As Paes saw it under construction, it may have been begun in A.D. 1521.

According to Paes, "besides this, the King built a tank in Nagalapur, modern Hospet there, which appears to me to be the width of a Falcon shot, and it is at the mouth of two hills, so that all the water that comes from either side collects there, and besides this, water comes to it from more than three leagues by pipes that run along with the lower parts of the range outside." This water comes from a lake that overflows into a tiny river. Three enormous pillars with figurines are carved onto the tank. These are connected to various pipelines above, via which they acquire water to irrigate their gardens and rice fields²⁴.

To construct the tank, the king demolished a hill that surrounded the tank's base. I saw so many people working in the tank that I estimated there were 15,000 to 20,000 men who looked like ants and couldn't see the ground they walked on. The monarch divided the tank among his captains, each of whom was responsible for ensuring that the people assigned to him completed their tasks and that the tank was completed²⁵.

Nuniz's narrative²⁶ continues in the same vein, but he adds two points of importance. He also speaks of sluices or weirs being made and he states that. So that they might improve their lands, he gave (the king) the people the lands that are irrigated by this water-free for 9 years until they have made their improvements, so that the revenue already amounts to 20,000 Pardaoes.

Both Domingo Paes and Fernao Nuniz have an eye for detail. They have faithfully recorded the choosing of the site for the tank, the number of men used to build it, the careful supervision of its construction by overseers, the building of pipes and sluices, and above all, the moderation in taxation, so that the people could

improve their lands. The revenue gained by this wise policy amounted to the handsome sum of 20,000 Pardoes.

Tank Maintenance and Repair Methods During the Rayas of Vijayanagara

Importance was given not only to the construction of irrigational works but also to their maintenance. An inscription from the reign of Sadasivaraya (A.D. 1543–70) dated A.D. 1563 says in its closing lines ".." of making a gift or maintaining (another's) a gift, the maintaining is superior to giving. By giving Svarga is attained, by maintaining another's gift at the feet of *Isvara*. Furthermore, many of the inscriptions enjoined that the land given for the upkeep of the tanks be enjoyed in perpetuity.

Dasavanda Grants:

The State, as far as possible, encouraged private initiative by making grants to the people or institutions that undertook the work of repairing broken or breached tanks, deepening them, or clearing out the slit. Such encouragement took the form of either Dasavanda or Kattu Kodage grants, according to which the person constructed a tank in return for the permanent assignment of tax-free land irrigated by the tank. The Dasavanda or KattuKodage grants might consist of wet and dry fields.

The earliest reference to the Dasavanda grant of land is found in an incomplete record ²⁷dated in Saka 1308, corresponding to A.D. 1386, from Kamalapuram Taluq in Cuddapah District. The inscription refers to Devaraya

Udaiyar (Devaraya I), who was appointed as Governor of Udayagiri in A.D. 1370 as the initiator of the Dasavanda System. The system, first introduced in the Andhra region, has spread to other regions as well. In an inscription of the reign of Devaraya I (A.D. 1406-22) dated in Saka 1334, corresponding to A.D. 1413, from Cuddapah Taluq (same district)²⁸.

We find reference to a Dasavanda grant of land made by a certain Mallanayanimgaru to Malanagara Obhal Ojhyulu and several others for undertaking to repair and maintain the tank bund in the village of Pendlimari in Mulkinadu. The entire cost of the work was estimated at 300 Singaya-madas instead of the amount to which the said land was assigned.

During the reign of Sadasivaraya (A.D. 1543–70), The upkeep of tanks was given a lot of thought. An inscription dated Saka 1489, corresponding to A.D. 1567, from Nandikotkur Taluq in Kurnool District shows the keen sense of duty of the King's officers in encouraging maintenance work. The inscription refers to a gift of land as Dasavanda by Vasantaraya to one Vengala Reddi for his having repaired the tank at Dudyala in the Siddhapuram Sima, given by Mahamandalesyara Timmarajayyadeva Maharaja as Nayankara to the donor with the stipulation that the repairs to the tank should be made every year²⁹. Thus, when a tank was constructed, the individual concerned would delegate the work to one or more people he trusted. Hence, the feudatories and subordinates of the King delegated the work of repairs and upkeep of the tanks to the villagers and agriculturists themselves.

KattuKodage Grants

Another kind of tax-free land granted to a person as a reward for constructing and maintaining tanks was called Kattu Kodage. This appears to be identical to Dasavanda³⁰. From an inscription of the reign of Achyutadeva Raya (A.D. 1530–42) dated in Saka 1463, corresponding to A.D. 1541 in Madakasira Taluq in Anantapur District, we came to know that the Gaundas, Chenna, and Timma Gaunda repaired, at their own cost, the Tammadihalli village's water tank, which had breached in three places. Their labour was justly rewarded in the form of a KarruKodage grant of land to be enjoyed in perpetuity by Tipparaja Maha Arasu, agent of Venkatadri Nayaka³¹.

We receive support on this point from an inscription of the reign of Sadasivaraya (A.D. 1543–70) dated in Saka 1473, corresponding to A.D. 1551, from Madakasira Taluq in Anantapur District. The Gaundas are prominently referred to for repairing the tank at Doddagatta in Nindugalnadu where Mali and Parusa Gaunda received a Kattu Kodage gift of land from Mahamadalesvara Tirymalayyadeva Mahaarasu of Manubola, who was the subordinate of MahamandalesvaraRamarajaVithalayadevaMaha arasu³².

Funds for the maintenance and upkeep of the tanks were provided from the income derived from the land given for the tanks. From an inscription of the reign of Devaraya II (A.D. 1422-46) dated in Saka 1351 corresponding to A.D. 1429-30 in the Nellore District, we come to know that the tank in front of the village of "Manginapundi" was in ruins, therefore the local officers (adigaru) Bommaraju and Singaraju took steps to maintain it by setting aside two Marutus of land as Manyam (grant of land or revenue in return for services to be rendered to the community) &

one putti of dry land for the maintenance of the tank, out of the 10 Marutus of land given for the tank by Nagaraju, the chief officer of the village³³.

The provision of servants and essential materials was one of the most prominent means of organising for the upkeep of irrigation systems. From an inscription of the reign of Krishnadeva Raya (A.D. 1509–29), dated in A.D. 1513 from "Channapatna" Taluq in Carnatica, we come to know that the King's Officer Kencha Somanna Vodeyar granted the village of MelaniHosahalli in Kadalur Sthala to provide for the upkeep of the big tank of Kudlur in Channapattana Sime, and it was decided to keep six carts , four for the Kadalur tank and two carts for the Moge halli tank, for putting earth on the bunds every year and for maintaining it in good order³⁴.

The local population was actively involved in the construction and maintenance of the irrigation works. The maintenance and repair work on tanks was well-rewarded. In this spirit, the residents of Dondavate granted a piece of land to a man named Malasani, son of Gundapa, for repairing the village tank. This grant was made under the orders of Mundana Nayaka, to whom Krishndeva Raya had given the village as Umbali (land which belonged to a government official as Umbaliestate was given by him as a gift for agricultural improvements in the presence of the village people). These details come from an inscription from the reign of Krishnadeva Raya (A.D. 1509–29) dated in Saka 1450, which corresponds to A.D. 1529 from Bellary Taluq (same district)³⁵.

From an inscription of ViruppanaUdaiyar (Virupaksha I), who had been appointed as viceroy of the Tamil country about A.D. 1377, dated in Saka 1303

(expired corresponding to A.D. 1382-83), in Tiruppanangadu in North Arcot District, we come to know that the temple authorities sold some of the temple lands to repair the breaches of the village tank, because they had no funds and because the lands remained uncultivated for a long time³⁶. Thus, we come to know of the goodwill and cooperation that existed between the temple authorities and the villagers.

The grant of fishing tax for the upkeep of tanks appears to be a common practise in the Tamil Region. From an inscription of the reign of Devaraya II (A.D. 1422-46), dated in Saka 1368, corresponding to A.D. 1446, in Polur Taluq in North Arcot, District, we come to know that provision was made by one Timmu Nayakkar for dredging the tank at Indiravanam with the fish amount realised from it³⁷. Sadasiva Raya's reign (A.D. 1543-70), we come to know from an inscription dated Saka 1479, corresponding to A.D. 1557, that under the order issued during the Parapatyam of Tirumalainambi (Sri) Ramayyanagar Ayyan, the fishing tax was granted for the upkeep of the tank at Tiruppalappandal for the merit of Koneti Ramaraja Obalaiyadeva—Maharaja.

Provision was also made for the removal of silt from the tanks. Thus, in an inscription dated in Saka 1368, corresponding to A.D. 1446 in Polur Taluq in North Arcot District, following the order of Devaraya II (A.D. 1422-46), a certain Akkadeva arranged for the clearance of silt in the (local) tank at Tenmahadeva Mangalam with the Velik Kulippanam, Vasal Kulippanam, and Erimin Vilaippanam and a small import of paddy on the cultivable land that was collected from the village³⁸.

The Kaifiyats (village records) also make mentions of the repairs and maintenance of tanks. The Uppaturu Kaifiyat, Uppaturu is in Kommadi Sammat (range), 20 miles (8 Paruvalu) west of Kamalapura town. The Kaifiyat records that Narasimharaya of Vijayanagar repaired two old tanks by the construction of new bunds at the village of Uppaturu, which was granted earlier under the name of Devarayasamudram to Brahmins as an Agrahara by Devaraya. In the latter years, the village was ruined. In the reign of Venkata-II (A.D. 1586–1614), the Brahmins returned to the village and had the tanks repaired by giving Dasanda Manyas³⁹.

The Portuguese traveller who visited the Vijayanagara empire from A.D. 1520–22, during the reign of Krishnadeva Raya (A.D. 1509–29), was greatly impressed by the irrigational works of the Rayas of Vijayanagara. He observed that between their hill ranges are many lakes (tanks) by which they irrigate the crops⁴⁰. This observation receives support from the writings of Sri Thomas Munro, who says, "... there is scarcely any place where a tank can be made to the advantage that has not already been applied to this purpose by the inhabitants⁴¹." A modern writer, Gribble, says a network of irrigation tanks and reservoirs, some of huge size, covered the whole face of the country, extending several square miles.

All of these public works were developed and maintained using a clever revenue scheme in which the government paid for none of the maintenance costs and just the building costs in the case of larger constructions. Under this system, known as "Dasavandam," a portion of the irrigated land was granted rent-free on the condition that the grantee keep the tank, repair it, and, in many cases, construct it. The government received the usual rent from the rest of the land, and in this way,

the government was able to improve the country while doing so, adding to its revenue with little additional expenditure⁴².

We are not getting any details from sources about the maintenance of irrigation works during Qutbshahi times. We can only assume the old practise might have continued.

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CHAPTER – VIII

CONCLUSION

Agriculture is like an old-age human civilization. Irrespective of age and period, region or dynastic rule, in any part of the world, agriculture stood as the primary occupation of the majority population of that kingdom or state. This sector also contributed a lion's share in the form of land revenue to the imperial exchequer. During ancient and mediaeval times, the rulers of India, both in Northern and South India, gave top priority to this sector and took the necessary steps, measures, facilities, and concessions to the agriculture sector. The peasants involved in the process of agriculture. The cultivation of various crops to meet the needs of society was accorded high regard and importance.

Ancient and medieval political thinkers, scholars, and rulers laid down humanistic and welfare-oriented suggestions and guidelines during this process. The state and its head (King/Sultan), his officials, guilds, temples, and rich private individuals responded and considered the extension or development of various forms of irrigation facilities to farmlands. The traditional Hindu faith of 'Moksha', or bliss, by constructing, repairing, or maintaining the new and old irrigational works, became one of the chief inspiring forces for the growth of irrigation works during this period. This irrigation work was initiated in two different forms. (1) repairing the existing canals, tanks, wells, ponds, lakes, etc., by making effective arrangements by granting concessions or encouraging remuneration such as ' *Dashabandha Manyas* '; (2) constructing the new tanks, canals, and reservoirs to

conserve the rainwater in the above form. It has become the primary duty of the state and society to lead a healthy life.

During the period of present study, i.e., irrigation works in Andhradesa, 1000-1687 C.E., "this region or Andhradesa was ruled by Kakatiya (1000-1323A.D), Musunuri (1324–1368A.D), Padmanyaka or Velama (1424–1478A.D), Reddis of Kondavidu, Rajamundry (1325–1424A.D), Vijayanagara rulers (1336-1640A.D) and Qutb Shashis of Golkonda (1518-1687A.D). Under the rule of the above dynasties, Andhradesa has undergone significant transformation in political, socio-economic, geographical, and cultural aspects.

The historic Anumakonda Thousand Pillar temple inscription mentions the rise of Kakatiyas as a sovereign power beginning in 1163 A.D., according to Rudradeva's declaration of sovereign power. He heralded the beginning of a new era in the history of the Kakatiyas and Telugu people. They succeeded in winning the support of their subjects by introducing different welfare schemes. They realised the importance of providing additional irrigation facilities to their peasants, as their area is not blessed with large rivers and fertile land.

The military conquests of Ganapatideva (1199–1263 A.D.) over fertile coastal Andhra have proved a turning point in the history of Medieval Andhradesa. Ganapatideva's political wisdom and strategy of continuing the defeated local rulers to continue in their rule over their respective territories (after accepting his overlordship) has benefited him. He became the master of the vast area. He could get huge tributes from the rulers of that region. He also inculcated a type of "Telugu Nationalism" in his subjects. Learned scholars like M. Rama Rao, P.V. Para brahma Sastry, K.A. Nilakanta Sastry, M. Krishna Kumari, P. Hymavathi, Cynthia Talbot, E. Sivanagi Reddy, C.V. Ramachandra Rao, etc., tried to

provide a clear idea about the agrarian structure of the "Kakatiya Economy". The epigraphical and literary source material gathered and used in the preparation of this research paper.

The Age of Kakatiyas became famous for its "*Golusukattu Cheruvulu*" scheme of irrigation. It was a unique programme introduced and in force with keen spirit by the Kakatiya Kings, their officials, and rich people. It became an inspiration to the future rulers of Medieval Andhradesa. The present Telangana Rastra Samithi's (TRS) Supremo Sri Kalvakuntla Chandra Shekar Rao and his team have launched a popular irrigation development programme entitled "Mission Kakatiya" to transform the face of the Pathetic Telangana Agrarian structure, which was neglected by the previous governments between 1956 and 2014.

"*The Mission Kakatiya Programme*" has generated a new inspiration in rural Telangana. People from each village were motivated to participate in the preservation and repair of their "*Maa Ooru Cheruvu*" through different programmes under the supervision of the Gram Sarpanch or a member of the Legislative Assembly. A huge amount was allocated by the present government to transform drought-struck Telangana into "Bangaru Telangana". Thus, we can say that the vision, goal, and policies of Medieval Andhra rulers were an inspiring source for overcoming water scarcity in agriculture.

The information collected from the epigraphs and literary sources related to the present study period, i.e., irrigation works in Medieval Andhradesa (1000-1687 A.D) is used with extreme care in the drafting of this thesis. An empirical methodology was adopted.

The study makes it clear that the rulers of Medieval Andhradesa, i.e., Kakatiyas, Padmanayakas (Velamas), Reddis, Vijayanagara rulers, and Qutb Shashis, encouraged the peasants and agriculture by providing better irrigation facilities. They realised the real importance of agriculture as it not only provided employment and food to the majority of the population of those times, but it also contributed a lion's share in the form of land tax or revenue. The "*Bhoomi Sisthu*" (huge amount received by the above rulers from agriculture) was spent on other public welfare programs. The Emperor Srikrishnadevaraya of Vijayanagara emphasised the importance of irrigation works and the ruler's responsibility in his well-known work, "*Amuktamalyada*." His call was well received by the successive rulers of Medieval Andhra.

The important "*tanks/samudras*" of the Kakatiya period include: Pakhala lake, Ramappa lake, Ghanpur lake, Laknavaram lake, or Bayyaram Tank (built by Ganapatideva's sister Mailamba, wife of Natawadi Rudra). Chandasamudra (built by Malyala Chaunda-Senani, the commander-in-chief of Ganapatideva's army). All these tanks were well maintained by the local officials and peasants.

Clinching evidence culled from epigraphs of Kakatiya kings and their officials shows that in the old Telangana Districts of Warangal, Karimnagar, Nalgonda, Khammam, and Nizamabad, each village during Kakatiya rule was built with a big or small size tank or "*cheruvu*". They stored the rainwater by constructing "*Golusucheruvulu*," or "*a chain of tanks*" to provide uninterrupted water to agricultural fields. They set a model for future rulers.

The Velama or Padmanayaka rulers also constructed several irrigations works at Khammam, Nalgonda, Rachakonda, Devarakonda, Pannagal, Mudigonda, Warangal, etc.

The age of Reddi rule over Andhradesa was not unique in its glorious political and cultural achievements. But it is also well remembered in the history of Medieval Andhradesa for its unclenching support extended to the peasantry by repairing the old wells and tanks and constructing many tanks and canals. They also constructed big tanks or lakes in different parts of their kingdom. Some of the important tanks/lakes of the Reddi age include "*KondaviduCheruvu*," "*Kondapalli Cheruvu*," "*Phiranigpuram Cheruvu*," and "*Addanki Cheruvu*".

The Vijayanagara Kingdom was founded in 1336 A.D. by Harihar I and Bukka I, bringing a new era in the social, political, economic, and cultural aspects of Medieval South India in general, and Andhradesa in particular. The Telugu origin of the founders of Vijayanagara was accepted by the majority of scholars. The Vijayanagara rulers ruled a vast kingdom, which spread over Telugu, Tamil, and Kannada-speaking areas. Right from the period of Sangamas, the rulers, their officials, and well-to-do people encouraged the activities related to the construction, repair, and arrangements to maintain all the early and newly constructed irrigation works by providing several incentives, such as "*Dasa Bandha Manyas*" and by granting tax exemption to peasants in the newly founded villages. Porumamilla tank, Bukkaraya Samudra, Timma Samudram, Konda Samudram, Nagalapuram tank, and other important irrigation works of the Vijayanagara period.

The Andhradesa during the period under study was not only ruled by native or Hindu rulers. But in the year 1518 A. D, Quli-Qutbshah, the Ex-*Tarfdar* of Bahmani Sultan, declared his Independence with "*Golkonda*" as his imperial headquarters. He treated the local Telugu people with a great spirit of love and affection. His successors, i.e., Jamshid, Ibrahim-Quli-Qutbshah (1550–1580A.D), Muhammad-Quli-Qutbshah (1580–1612A.D),

Abdulla-Qutbshah, and Abul-Hassan-Tanashah, also took a special interest in repairing the old wells, lakes, and tanks. They also built new tanks at different places. The present Ibrahimpatnam tank was built by Ibrahim-Quli-Qutb Shah. Hussain-Sagar-lake was also built in the year 1562 A.D. by Hussain Shawali. The Qutbshahi Women (Royal Ladies) also show a keen interest in the building of tanks and lakes. In the year, Maa-Saheba built a tank near the Masab Tank area. The Qutbshahi Sultans built many lakes, or "sarais," to provide water to gardens and passengers, travelers, and their cattle at *sarais* beginning in 1591 A.D.

Thus, the above study makes it clear that all the rulers of Medieval Andhra realised the need to promote agriculture by providing various forms of irrigation schemes. This is well recorded in contemporary sources. The construction maintenance of these works became a popular program in Andhradesa. This brought huge land revenue to the state and provided ample food items to peasants and society. The above activities of rulers, their officials, and rich people became role models for the present government of Telangana State. It has launched "Mission Kakatiya" to promote agriculture and protect the all-around interests of peasants in this region and set a model for sister states of South India.

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