

Irrigation a Fundamental Contribution to Farming in Rayalaseema A Study

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ABSTRACT

". Monsoons have consistently been uncertain in their appearance, span and sum and the date of going. Additionally, stressing is the pattern that since 1997 the yearly normal rainfall has been lower than the long run normal and the districts with extremely low and high precipitation show the most noteworthy changeability delivering the unsure rainfed farming all the more helpless. Furthermore, environmental change is happening prior and more quickly than anticipated. Expanded temperatures and changes in precipitation pattern could cause heat waves, dry spells and flooding in huge areas of Rayalaseema. Cotton, groundnuts, pulses, maize etc yield could be decreased by dry season. Changing rainfall pattern are anticipated to decrease some crops yield in Rayalaseema region. Under these current and much all the more testing future situations, improvement in the Rayalaseema's accessible water sources and their productive use through improved water system the executives are the main alternative for quickening the farming development.

I. INTRODUCTION

Rayalaseema Region is the land once developed by the 'Rayas' of the acclaimed Vijayanagara realm somewhere in the range of 1336 and 1649 A.D. Krishnadevaraya (Tuluva dynasty) ruled Rayalaseema as part of his realm from 1509 to 1530 A.D. It is after this extraordinary King, that the four districts viz., Anantapur, Chittoor, Cuddapah and Kurnool in Andhra Pradesh state are altogether called Rayalaseema. It was also aptly called as *Rathnalaseema* (territory of valuable stones) as the jewels, rubies, diamonds, pearls and different valuable and semi-valuable stones were sold in hills at

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city intersections during the Vijayanagar Kingdom. Today, the Stoics call same area as *Rallaseema* (territory of rocks and stones) in local lingo. Rayalaseema areas were in the composite Madras state up to 30th September, 1953. They were made part of Andhra state from 1st October, 1956. Rayalaseema has become some portion of the province of Andhra Pradesh from 1st November, 1956, when it was shaped by blending it into Andhra state. Then the two districts Prakasam and Nellore (Sri Potti Sree Ramulu) are included in Rayalaseema region for administration and the development of area. There is no agriculture development without irrigation project facilities in drought areas like Rayalaseema.

The primary objectives of the research are: 1) The spatial and temporal dissemination of irrigation and its effect on Rayalaseema development farming in the study region.

- To find the regions signing in irrigation provisions and the reasons thereof.
- To identify the factors which caused less development in Rayalaseema region.

Research Methodology: The current study is principally founded on the data accumulated from different sources that deal and managed the research in Rayalaseema. The information was gathered from secondary data. The data applicable to the research has been taken from Agriculture dash board of Government of Andhra Pradesh, AP Water Resource Board, relevant websites and research books. The information relating to Irrigation status, issues in 6 locals of Rayalaseema is obtained.

Importance of Irrigation: Increment in agriculture yield and efficiency relies a great deal upon the accessibility of water, thus water system assumes a significant role. It has been substantiated by different investigations that water system office has critical impact on crop yield. Indeed, even low information water system is more gainful than high - input rainfed agribusiness. Water system fundamentally expands crop yield for different reasons. 1. Water system facility makes the cultivators to utilize better assortments and other bio-substance innovations which clearly lead to expanded efficiency. 2. The cropping pattern followed in the irrigated territory is better than that of un-watered region and in this manner, the yield of harvest is perpetually higher under inundated land. 3. Water system office permits the farmers to utilize the land all the more efficiently during the time with more elevated level of editing force, which is beyond the realm of imagination under un-inundated land. 4. The hazard in getting the guaranteed yield from the harvests developed because of dampness stress is high under un-inundated land while it is considerably less in watered land.

Significantly, given the exceptionally inelastic supply of land and decreased net planted territory, the future development of cultivation should intensely depend on water system facility as it takes into consideration different trimming on a similar part of cultivable land.

Water Resources: No. of Rivers in AP

North Coastal	20
Mid Coastal	18
South Coastal	12
Rayalaseema	19

Source: AP Dash Board

Most of the flow is in coastal area so that this region is called Annapurna and Rayalaseema is called Rallaseema

Rayalaseema scenario: Rayalaseema's cultivable lands are still for the most part rainfed. A good rainstorm prompts plentiful harvest which raises agriculture revenue, helps rural utilization and drives the economy. A feeble rainstorm and dry seasons, in outrageous cases- harms agriculture laborers, raises food costs, increases rural migration, and for the most part makes trouble in the Rayalaseema region. More than half of the region in Rayalaseema experience hot dry spells in fluctuating degrees, 33% of this zone is really "incessantly dry season inclined". Monsoons have consistently been uncertain in their appearance, span and sum and the date of going. Additionally, stressing is the pattern that since 1997 the yearly normal rainfall has been lower than the long run normal and the districts with extremely low and high precipitation show the most noteworthy changeability delivering the unsure rainfed farming all the more helpless. Furthermore, environmental change is happening prior and more quickly than anticipated. Expanded temperatures and changes in precipitation pattern could cause heat waves, dry spells and flooding in huge areas of Rayalaseema. Cotton, groundnuts, pulses, maize etc yield could be decreased by dry season. Changing rainfall pattern are anticipated to decrease some crops yield in Rayalaseema region. Under these current and much all the more testing future situations, improvement in the Rayalaseema's accessible water sources and their productive use through improved water system the executives are the main alternative for quickening the farming development.

Rayalaseema people distress: Authentic bad form to Rayalaseema Coastal lawmakers denied Rayalaseema of Andhra University in 1926, and The Sreebagh Pact (which guaranteed State capital or High Court and need in the utilization of Krishna and Tungabhadra waters for a long time or more to Rayalaseema area) was tossed into a residue container, when the Telugu State was shaped. In particular, the Krishna-Pennar venture, affirmed by the Planning Commission and the Madras government in 1951, was to be worked at Siddeswaram in Kurnool locale. In reality the Krishna-Pennar venture was intended to irrigate 16 lakh sections of land in Rayalaseema. It was subverted and Nagarjuna Sagar was constructed. Not happy with that they got Srisailam supply worked, as an overhead tank to Sagar. In this way, Rayalaseema lost around 90,000 sections of cultivable land and 100 towns parched yet not a drop of water from Srisailam. Once more, since the Reorganization of AP, Rayalaseema is treated as an unapproachable, a *Velivada*, with not a solitary organization, worth the name, regardless of whether of the State or the Centre, has been apportioned to

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Rayalaseema. Of course, the government officials of this area gestured their heads like moronic creatures.

Rayalaseema pioneers' quiet Again and once more, they, particularly, the government officials of Rayalaseema, attempted to demonstrate their undeterred unwaveringness to their waterfront experts, overlooking and in any event, harming the interests of their own region, the most in reverse Rayalaseema. In the development of Palamur-Rangareddy and Dindi Lift Irrigation Schemes in Telangana, which are relied upon to lift 90tmcft and 30tmcft of Krishna back waters individually, not surprisingly, they think that it's helpful to put the rifle on the shoulders of Rayalaseema, focusing on the individuals of similarly in reverse regions of Mahabubnagar and Nalgonda. Such has been their attitude since 1920's to complete things in their own kindness.

Accelerating farm production through Micro Irrigation: Water is a scant regular resource and there is an immense demand and supply gap to meet the prerequisites of different divisions. The most elevated water request is from irrigation, a basic contribution for farming creation and its present request in the Rayalaseema area is nearly 82%. Water sparing in irrigation has been given crucial significance to accomplish water use proficiency. Consequently, proficient water system advancements are unavoidable for upgrading water efficiency. Micro irrigation is an inventive water sparing innovation in which water is straight forwardly provided to the yields with exceptionally less transport and vanishing misfortunes. Spared water can in this manner, be utilized all the more effectively for meeting other conservative or environmental needs. The significant preferred position of this innovation contrasted with customary surface flooding technique is that miniaturized scale water system diminishes non-valuable vanishing and non-recoverable permeation of water. Henceforth, this innovation helps up by and large water use productivity. Micro irrigation is considered as a judicious water system innovation elevated broadly and universally to accomplish higher cropping force and water system intensity through more concentrated use of water to crops.

Advantages of Micro Irrigation where water scarce districts: Micro water system is reasonably applied to inundated farming water scarce areas of Rayalaseema. There are numerous different advantages of Micro irrigation pattern. Blending of supplements and water is conceivable in the drip water system framework itself and the arrangement can be straightforwardly provided to the root zone of the plants. Water and manure application proficiency are improved essentially. This has a long run effect on recapture land richness and at last increment in land efficiency. Harvest yield relies on water accessibility at the root zone and soil supplements at various phases of vegetation. Farmers are inspired to utilize this innovation because of different purposes. Pre-Monsoons farming and early reap are conceivable. Consequently, the yield won't be

influenced regardless of whether the storm pulls back ahead of schedule or a deficient monsoon. Micro-irrigation prompts generous growth in agriculture revenue, bigger region of farming, minimal effort of yielding particularly water system cost and weeding cost, expanded yield of produce, improved nature of harvests with ideal water use productivity. It is conceivable to control water application rate and manure application measurements. Cultivators can sensibly embrace the cropping method and harvest force because of improved water accessibility circumstance. High esteemed cash yields can be developed without any problem. Also, micro irrigation can be applied to a wide range of grounds in Rayalaseema. Consequently, this water system has been considered an innovative method to quicken practical farming development in Rayalaseema region including Prakasam and Nellore (SPSR) districts.

Rayalaseema Lift Irrigation: The Rayalaseema lift water system plan is set to be a distinct advantage for the locale as it expects to give guaranteed water to the whole 19 lakh acres of land in the four regions. Up until now, the mostly finished irrigation plans could once in a while help inundate around eight lakh acres of land while the left over 11 lakh acres of land were left dry. The Rayalaseema lift irrigation plan, when finished, will draw three TMC of water for every day (up to 8tmc) from Sangameswaram and siphon it into the Srisailem Right Main channel (SRMC). While the vast majority of the plans of Telangana, for example, Kalwakurthy LIS, Palamuru – Rangareddy LIS and Srisailem Left Power generation station are drawing water in any event, when the level at Srisailem supply is at 800 ft and underneath to a sum of 28,000 cusecs every day which is about 2.5 TMC of water every day, AP is drawing just 795 cusecs of water from Mutchumarri LIS that isn't even 0.1 TMC every day at a similar level. In spite of the fact that Srisailem got rainwater in six spells in 2019-20, about 600 TMC of water went unutilised into the seas because of helpless infrastructure to store even 120 TMC of water in the Rayalaseema area. According to the understanding between AP and Telangana, the share of Rayalaseema in Krishna water is 144tmc from the complete AP's share of 512 tmc. Telangana got 299 tmc. Keeping taking into account the lasting drought circumstance in Rayalaseema, the irrigation division is to increase the current framework and draw water up to eight TMC every day. Consequently, the structures have been prepared to improve the release limits of the channels and tap greatest water during the pinnacle flood season.

The National Green Tribunal (NGT) has, of late, gave a request remaining the proposed Rayalaseema Lift Irrigation Scheme. The NGT's zonal seat likewise comprised a board of trustees to consider the ecological effect of the Rayalaseema siphoning venture and Pothireddypadu head controller trenches upgrade works. Telangana government has as of late whined to Krishna River Management Board (KRMB) against these ventures, after the appeal of an occupant of Telangana.

Rayalaseema got sharing water in last 10 years from Srisailam under Pothireddypadu

Year	Allocation sharing water (in TMCs)
2010 – 2011	83.58
2011 – 2012	83.68
2012 – 2013	29.42
2013 – 2014	96.38
2014 – 2015	59.17
2015 – 2016	0.95
2016 – 2017	67.44
2017 – 2018	91.70
2018 – 2019	115.40
2019 – 2020	179.40

Source: Times of India July 14, 2020

The finance minister of A.P. noticed that the State couldn't draw its allocated share from the Krishna bowl even as extreme dry spell conditions have gotten regular in Rayalaseema regions. The Rayalaseema Drought Mitigation Project, which additionally incorporates the proposed Rayalaseema Pumping Scheme that set off water war between Andhra Pradesh and Telangana, would address this issue, he said. The Rayalaseema Drought Mitigation Scheme is visualized to guarantee that our due water in the Krishna stream is acknowledged in the short number of flood days accessible and furthermore for fulfilling our State's promise to give drinking water to the city of Chennai. This plan would be an aid to the cultivators of the State, Rayalaseema specifically."

Recent Irrigation Allocations in Rayalaseema Region

Name of the Projects	Allocation (Rs. In Crores)
Kadapa Irrigation Projects	1350.00
Prakasam Irrigation Projects	1085.00
Anantapuram Irrigation Projects	745.22
NTR Telugu Ganga Project	287.00
Minor Projects	424.00
Flood Control Projects	177.00

Source: AP Dash Board

Somasila High Level Project in SPSR District: The Somasila HLC (Lift Irrigation) project, which is planned for giving irrigation water to 90,000 acres of land in upland zone. Under the project, as much as five tmcft of Pennar rising water will be drawn from the Somasila store to provide irrigation water in six dry spells

prone mandals in Atmakur and Udayagiri assembly bodies electorate. Another 0.2 tmcft will be redirected to meet the drinking water needs of over 2.35 lakh populace in 58 villages in the ayacut regions. The six mandals, which will advantage by the elevated level trench, are Marripadu, Vinjamur, Dutralur, Udayagiri, Atmakur and Anantasagaramu. The total length of the canals framework under this undertaking is 59 kms with gravity trenches reaching out for 37 kms and movement waterways for 22 kms. There will be a sum of eight lifts and seven stores along route. It isn't just gracefully irrigation water yet in addition help in blocking migration farming families.

Veligonda Irrigation: Veligonda Irrigation project is an under-development water system project situated in Prakasam region in Rayalaseema. When completed, the task will give irrigational provision to 459,000 Acres and drinking water to 1.5 million people in 29 fluoride rich Mandals and dry season influenced regions in Prakasam, Nellore and Kadapa regions by occupying 43.5 TMC of floodwater of Krishna stream from foreshore of Srisailam Reservoir close Kollamvagu and estimated to store in Nallamala sagar Reservoir. The water for the undertaking is drawn through two 18.8 km long passages across Nallamala hills. Then this irrigation project has been renamed to Poola Subbaiah irrigation project. The development incorporates two equal passages of 18.8 km with 9.2 m and 7 m inner width and 21.6 km Flood stream waterway for the water transmission framework connecting with Srisailam Reservoir up to Guntur-Kurnool way. The project is being actualized by twofold protected passage exhausting machine to make the passage without upsetting natural life in the Nagarjuna sagar-Srisailam Tiger Reserve.

Veligallu dam storage project: It is a water system project across Papagni waterway close to Galiveedu in Kadapa area of Rayalaseema. This project target is likely to take into consideration the water system of an aggregate of 24000 acres of land (Galiveedu, Lakkireddypalli and Ramapuram Mandals of Rayachoti Taluk) in Rayachoti Taluk of Kadapa area for drinking water arrangement for a populace of 1 Lakh. The task's foreseen total stockpiling limit is 4.64 Tmcft.

II. CONCLUSION

All the Rayalaseema leaders and civil servants are serious about the Rayalaseema. They ought to get a resolution passed by their particular state boards looking for the annulment and prompt development of HLC equal waterway, culmination of different pending activities along with the development of Gundrevula supply, Siddeswarm reservoir, RDS flood stream trench, Vedavathi Lift plot and for execution of the assurances given in AP State Reorganization Act. They are rather driving individuals towards the delusion of Special Status only. Towards securing the lands essential for the irrigation projects and

development work, the government should take initiative steps to finish the water system projects. When finished, the tasks are relied upon to satisfy the long - cherished dream of the people of upland zone in the Rayalaseema locale to observe farming development and success.

III. REFERENCE

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