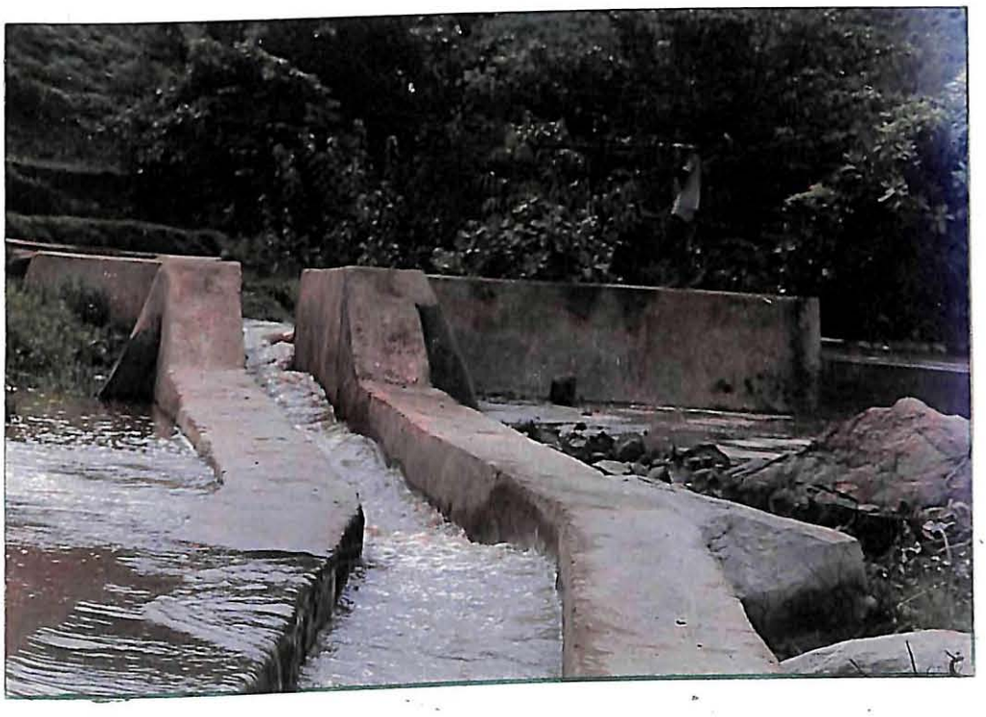
EVALUATION OF MINOR IRRIGATION SCHEMES IN K.R.PURAM ITDA AREA OF W. GODAVARI DISTRICT



TRIBAL CULTURAL RESEARCH AND TRAINING INSTITUTE
TRIBAL WELFARE DEPARTMENT
GOVERNMENT OF ANDHRA PRADESH
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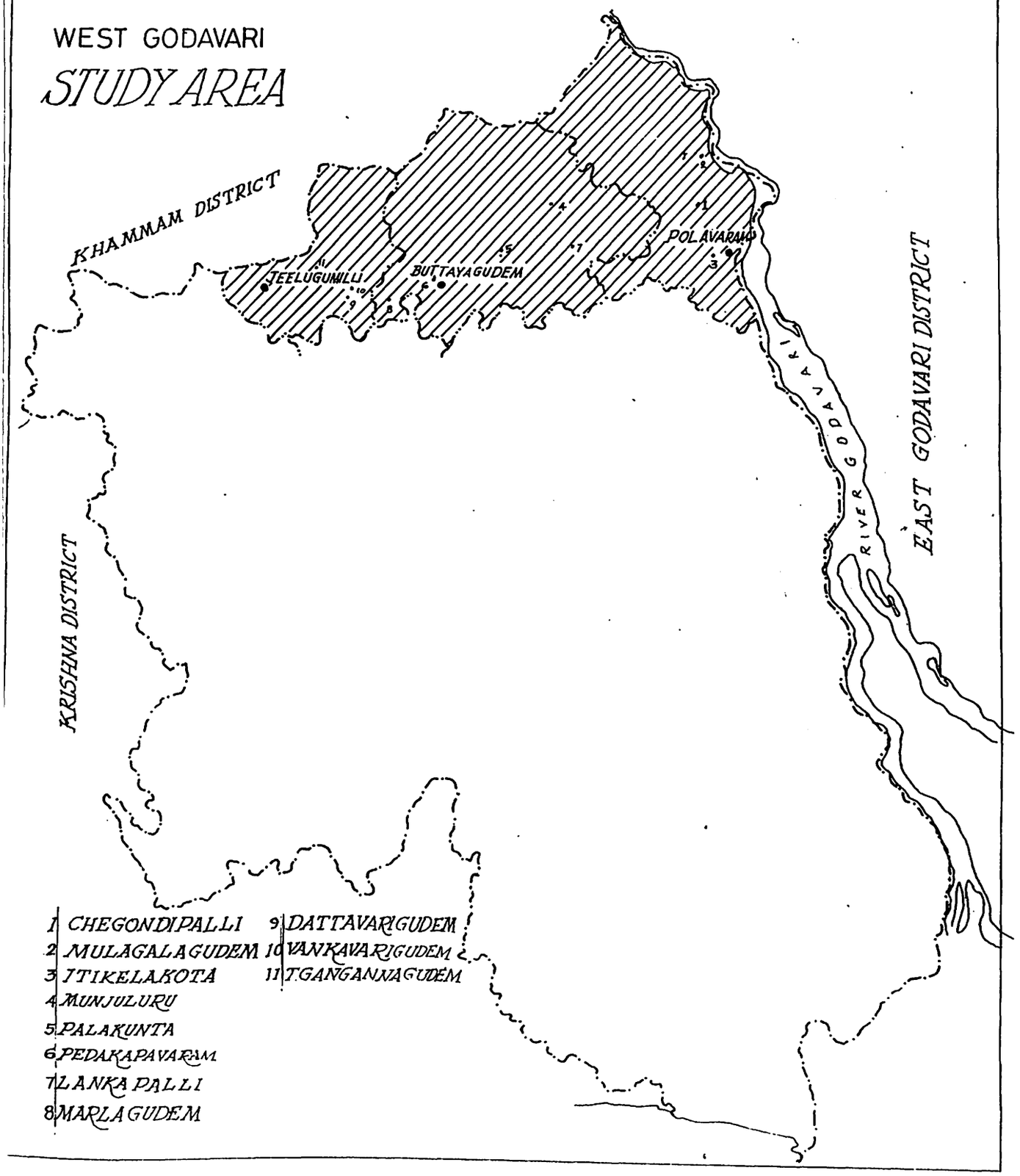
CONTENTS

ABBREVIATIONS

AC	Agricultural Consultant
APAU	Andhra Pradesh Agricultural University
APSIDC	Andhra Pradesh State Irrigation Development Corporation
CD	Check Dam
CDC	Community Development Co-coordinator
DRs	Domestic Requirements
GB	Grain Bank
GCC	Girijan Co-operative Corporation
GOAP	Government of Andhra Pradesh
ITDA	Integrated Tribal Development Agency
LI	Lift Irrigation
MI	Minor Irrigation
MPDO	Mandal Parishad Development Officer
PDS	Public Distribution System
PO	Project Officer
TCG	Thrift and Credit Group
TCR&TI	Tribal Cultural Research and Training Institute
TWD	Tribal Welfare Department
VDC	Village Development Committee
VTDA	Village Tribal Development Association
WUA	Water Users Association


WEST GODAVARI
STUDY AREA
KHAMMAM DISTRICT
KRISHNA DISTRICT
EAST GODAVARI DISTRICT
GODAVARI RIVER
POLAVARAM
JEELUGUMILLI
BUTTAYAGUDEM
1 CHEGONDIPALLI
2 MULAGALAGUDEM
3 ITIKELAKOTA
4 MUNJULURU
5 PALAKUNTA
6 PEDAKAPAVARAM
7 LANKA PALLI
8 MARLAGUDEM
9 DATTAVARIGUDEM
10 VANKAVARIGUDEM
11 T.GANGANNAGUDEM

EXECUTIVE SUMMARY

1. One of the major reasons for the low productivity of land held by the tribals in the agency areas is lack of irrigation facility. The yields from the rainfed crops are very low and depend on the mercy of the monsoons. If the monsoons fail, they borrow money from the non-tribals/ moneylenders and sometimes lead to alienation of lands to non-triblas.

2. Keeping in view the importance of minor irrigation in tribal areas, a Master Plan for the development of minor irrigation in Tribal Sub-Plan Areas of Andhra Pradesh was prepared by Tribal welfare Department, Government of Andhra Pradesh during 1990 in consultation with the Project Officers and the Executive Engineers of Special Minor Irrigation Divisions of 8 ITDA areas and the same is under implementation.

Need for the Study

3. An amount of Rs.4213.75 lakhs was spent by the 8 ITDAs, for grounding 1500 schemes in order to bring 27,784 hectares of land under irrigation over a period of four years. It was felt necessary to assess the impact of these programmes on the socio-economic life of tribals. The study was also intended to study the impact of G.O.M.S. No: 30 empowering the local VDCs/ Ayacutdars/ Beneficiaries to construct the M.I. works for better quality, management, and utilization.

Selection of the Area

4. K.R.Puram ITDA was selected for the study, as it covered large extent (6824.57 Ha) under irrigation when compared to other ITDAs by spending Rs.269.43 lakhs.

5. Purposive random sampling method was adopted for selection of the villages. On the basis of information provided by the SMI Division, three mandals Viz. Buttayagudem, Polavaram and Jeelugumilli were selected. Altogether, 11 villages in three mandals were selected by opting different schemes like check dams, tanks, lift irrigation and community irrigation wells. Some of the repair works were also selected to know their utility and efficiency.

Methodology

6. Two types of schedules viz. Beneficiary Schedule and Village Schedule were used for eliciting the information. Initially discussions were held with the Project Officer, ITDA and Engineering Staff of SMI Division, K.R.Puram and recorded their views on the implementation of M.I. Schemes. On reaching the village, the team had been divided itself into two groups. One group was canvassing the schedules for eliciting the information from the beneficiaries, while the other group visited the spot for physical verification of the scheme.

7. At the end of the field work discussions were held with the Engineering staff of SMI Division to give feedback and also help them to take some immediate corrective measures for effective functioning of the schemes.

8. The field work was conducted from 10th July to 20th July, 2000.

Progress of M.I.Works in Tribal Areas

9. An amount of Rs.4213.75 lakhs was spent for bringing 27784.12 hectares of land under irrigation through 1500 M.I.Works over a period of four years commencing from 1995-96 to 1998-99. (Due to lack of uniform data for the last one decade from all the ITDAs, the data was furnished only for 4 years). During the above period, maximum amount i.e. Rs.1027.53 lakhs was spent by Utnoor ITDA, followed by Bhadachalam (Rs.763.41 lakhs), Paderu (Rs.661.27 lakhs) and Eturunagaram (Rs.575.40 lakhs).

10. The average amount spent on per hectare of land irrigated reveals that it is highest in Utnoor (Rs.46336/-), followed by Bhadrachalam (Rs.25746/-), Eturunagaram (Rs.14823/-) and Seethampeta (Rs.14440/-). Least amount was incurred in K.R.Puram ITDA i.e. Rs.3949/- per hectare of land irrigated. The

reason for spending least amount is due to repair works taken up more than one time on each work and the same extent brought under irrigation was shown several times.

M.I. Programmes in K.R.Puram ITDA Area

11. In K.R.Puram ITDA area, the schemes like tanks, check dams, lift irrigation and community irrigation wells have been taken up. Altogether 557 works have been grounded by spending Rs.472.46 lakhs over a period of 10 years starting from 1990-91. Of these 557 works, 332 were C.I.wells grounded by MPDOs of concerned mandals and the rest 225 were executed by SMI Division.

12. Out of 225 works, 193 i.e. 85.8% of the works were repairs and the rest were new structures. The SMI Division has spent 72.0% of total releases on repairs only.

13. During the period of 10 years, repairs were taken up on 80 irrigation structures. In many works repairs have been taken up more than one time. In 23.8% of works repairs were taken up twice on each work, 7.5% of works thrice, 12.5% of works four times and in 17.5% of works more than four times. Of the 14 repair works taken up more than four times, six works have been taken up five times repairs, four works seven times repairs, two works eight times, one work ten times and another work fourteen times.

14. It was noticed that out of 99 works identified in the master plan for the development of irrigation in West Godavari district to be implemented form 1990-91 to 1999-2000, only 32 works were taken up during the above period and emphasis was given to repair works by taking up 193 works.

15. In the above circumstances, it is suggested that there is an urgent need to conduct a special technical study on the repair works and their impact on improving the irrigation facilities to the tribal farmers.

16. As per the data provided by MPDOs, the total C.I.Wells grounded and energized constitute 63.8%, which are supposed to be functioning and the rest are defunct due to lack of power supply.

17. Land development works in the ayacuts have been neglected resulting in low water efficiency. Only 121 Ha of land was treated under land development from 1990-91 to 1999-2000. A proper water distribution system is usually lacking and a considerable gap is noticed between the designed ayacuts and actual area irrigated.

ECONOMY OF TRIBALS

18. Agriculture constitutes the sheer anchor of tribal economy, as is evident from the fact that out of 26038 working tribal population in the ITDA area, 95.2% are engaged in agriculture sector either as cultivators or agricultural labourers. Among these agriculture populations, only 36.5% are cultivators and the rest are agricultural labourers.

19. The land available for cultivation is very limited i.e. 20.5% of the total geographical area and even the available land is fragmented and sub-divided into various uneconomic holdings.

20. Most of the landholders in the ITDA area are marginal farmers (41.1%) followed by small farmers (25.8%) and a very few farmers are large farmers (0.9%).

Cropping Pattern

21. An analysis of change in cropping pattern from 1990-91 to 1999-2000 shows that only 1844 Ha of gross area was increased during the above period of which the area sown more than once is 386 Ha. During the above period the extent of paddy was increased by 1.7%, maize by 75.2%, tobacco by 14.9% and sugarcane by 165.1% where as jowar cultivation was drastically reduced by 76.3%. the above data shows that there is only slight shift from food crops to commercial crops during the period 1990-91 to 1999-2000.

22. The data further reveals that only about 1450 Ha of dry land was brought under irrigation from 1990-91 to 1999-2000. The amount spent on irrigation during the period was 472.46 lakhs, which works out to Rs.32583/- per hectare of land irrigated.

Yields

23. The yields of paddy in the irrigated lands in khariff season are two tonnes per hectare. The average yields of tobacco, maize and groundnut are relatively lower to the district averages because of deficiency of Phosphorous and Potassium in the soil.

STUDY FINDINGS

24. Altogether 11 villages in three mandals viz. Buttayagudem, Jeelugumilli and Polavaram were covered by selecting five check dams (3 new and 2 repairs), two tanks (one new and one repair), five C.I. Wells and two L.I.Schemes for the study.

Check dams

25. During the period 19900-91 to 1999-2000, 32 new works and 103 repair works have been taken up by spending Rs.213.32 lakhs. In Munjuluru village, the check dam, which was completed recently, is useful to five families only. Due to uneven cultivable land and lack of gate to the sluice, the water is not being fully utilized by the other farmers.

26. The check dams constructed in Vankavarigudem village of Jeelugumilli Mandal is serving to a non-tribal, who owned 13.00 acres of land and a few tribals with an extent of 11.00 acres.

27. The check dam at Chegondipalli village of Polavaram Mandal, which was constructed during 1991-92, was defunct due to disputes among the ayacutdars and it was filled with silt.

28. The check dam constructed in Mulagalagudem village of Polavaram Mandal is functioning well and 15 families have been successfully cultivating their lands.

Tanks

29. Only repair works numbering 90 to the tanks were attended by the SMI Division during 1990-91 to 1999-2000.

30. In T.Gangannagudem village of Jeelugumilli Mandal, a tank was constructed during 1998-99 by covering 15 families with an extent of 30.00 acres. Immediately after completion of the work land development was also taken up. The ayacutdars are successfully cultivating their lands.

31. Strengthening of bund was taken up on a tank in Datlavarigudem village of Jeelugumilli mandal but due to heavy seepage of water only four acres of land was under irrigation.

Lift Irrigation Schemes

32. All the L.I. schemes in the ITDA area except the one i.e. Kovvada village of Buttayagudem Mandal were defunct due to various reasons like mechanical defect, non-payment of electrical charges etc.

Community Irrigation Wells

33. The term community irrigation wells in K.R.Puram ITDA refer to individual wells, bore wells and tube wells sanctioned to individual families. Out of 332 C.I. Wells grounded from 1988-89 to 1999-2000, only 212 wells were energized and supplied motors.

34. In Itikalakota village of Polavaram Mandal, 3 beneficiaries were sanctioned C.I.Wells during 1995-96 and they were supplied with 5 HP electric motors in the year 1997-98. The motors were not suitable to the bore as the water level was very low and hence the scheme was defunct.

35. In Datlavarigudem village of Jeelugumilli Mandal, 6 beneficiaries were sanctioned individual wells and grounded during 1993-94. Till now, neither electric motors nor power supply were given to the wells.

36. In T.Gangannagudem village of Jeelugumilli Mandal, a few beneficiaries were provided with individual wells and electric motors. They have been successfully cultivating commercial crops like sugarcane, tobacco, groundnut, chillies etc and getting good income.

PARTICIPATION

Identification Of Resources

37. Motivation meetings held in 45% of the selected villages. 82% of the beneficiaries in the selected villages were consulted in the identification of resources.

Training

38. Ayacutdars would have to be given training in scheduling, water management, methods of land leveling, cropping patterns, operation and maintenance of accounts etc by the SMI Division. But this type of training was not given to tribal beneficiaries in any selected villages.

Execution Of Works:

39. In the studied villages, respective VTDAs have executed 18% of the works only and the rest by the non-tribal contractors. Few works were sanctioned in the name of tribals and the non-tribal contractors attended the execution works. In some villages, the local tribals were worked as labourers and in many villages, the non-tribal contractors brought non-tribal workers from the plain areas and executed the works. Regarding quality of construction of irrigation structures, the stakeholders of the study villages informed that only 27% of the works are good, 36.4% are satisfactory and the rest are not good.

Maintenance

40. Most of the irrigation structures in the sub-plan area are not working due to lack of proper maintenance. Due to hilly terrain, the topsoil is being eroded leading to silting of check dams/ M.I.Tanks. Because of financial constraints and non-cooperation among the ayacutdars, the silt deposited is not removed and it ultimately leads to non-functioning of the structure. To over come this situation, the ayacutdars would be motivated to contribute cash and the ITDA

have to give matching grant equal to the contributions raised by the bank and the interest accrued on it would be utilized for maintenance of the structures every year.

41. The ayacutdars would be encouraged to nominate one of the farmers/ ayacutdars to irrigate water to all fields impartially and regularly for which he would be paid some grain, depending upon the land irrigated.

Functioning of Irrigation Schemes

42. Out of the total structures visited by the team, only 27.2% were in working condition, 27.2% in partially working condition and the rest were defunct.

43. Wherever the irrigation structures are maintained properly, those structures are functioning well and the beneficiaries are receiving good yields.

Monitoring and Evaluation

44. For successful implementation of M.I.Works, constant monitoring and supervision are quite essential. This job can be entrusted to Monitoring Section of the ITDA.

CHAPTER-I

INTRODUCTION

1.1. The tribals of Andhra Pradesh especially those living in the agency area are under perpetual poverty. The land in the agency area is undulating with hilly terrain and some of the tribals are depending on podu cultivation. The plain cultivable land is very limited with meagre sources of irrigation facility. Due to their traditional method of cultivation without using fertilizers and pesticides coupled with lack of irrigation facilities, the tribals are in subsistence state of economy.

1.2. One of the major reasons for the low productivity of the land held by the tribals is lack of irrigation facility. The yields from the rain-fed crops are very low and depend on the mercy of the monsoons. If the monsoons fail, they borrow money from the non-tribals/ moneylenders and sometimes lead to alienation of lands to the non-tribals. The productivity of the lands is to be improved to ensure food security and to compensate the shrinkage in their resource base.

1.3. The growing demand for increased irrigation facilities by the tribals bears ample testimony to its popularity and its utility as well. Long before expert opinion started veering round the view that irrigation facility is a must for increasing the productivity of land in tribal areas. The tribal himself had on his own recognized its importance as evidenced by various indigenously evolved irrigation methods adopted by the tribals. What is needed today is to provide the tribals with modern irrigation technology.

1.4. The ITDA areas lying in the uplands where there is no feasibility for major and medium irrigation projects, minor irrigation makes the most economically

viable proposition. By adopting the modern techniques of irrigation with judicious water management, perhaps the tribals can successfully venture into the fields like Pisciculture, Floriculture (Growing Vegetables), and Pomiculture. Dairying is another area with assured irrigation, which will indirectly receive a boost. Dependence of tribals on forest and forest produce for their livelihood can also be minimized and the tribals can be provided with assured gainful employment through out the year.

1.5. In view of rich irrigation potential and low productivity from the fields, there is every need for creation of minor irrigation sources in the tribal areas. Realizing this, the Government of Andhra Pradesh have taken up M.I. schemes like construction of check dams, M.I. Tanks, individual wells, bore wells, L.I. Schemes, C.I. Wells etc.

1.6. Keeping in view the importance given for the development of minor irrigation and to accelerate tribal development through modern agricultural practices, a Master Plan for the development of minor irrigation in Tribal Sub-Plan areas of A.P, was prepared by Tribal Welfare Department, Government of Andhra Pradesh during 1990 in consultation with the Project Officers and Executive Engineers of Special M.I. Divisions of 8 ITDA areas and the same is being implemented in the sub-plan areas.

NEED FOR THE STUDY

1.7. An amount of Rs. 4213.75 lakhs was spent by the ITDAs of Andhra Pradesh for grounding 1500 schemes in order to bring 27,784.12 hectares of land under irrigation over a period of four years starting from 1995-96 to 1998-99. It was felt necessary to assess the impact of these programmes on the socio-economic life of tribals. Besides this, present study was intended to study the impact of G.O.M.S. No: 30, Social Welfare (V2) Dept, dated: 17-2-1994 empowering local VDCs/ Ayacutdars/ Beneficiaries to construct the M.I. Works for better quality, management and utilization.

OBJECTIVES OF THE STUDY

1.8. **The objectives for undertaking this study are as follows:**

- *To know whether the people's participation has been ensured in every stage of planning, implementation and maintenance of M.I.Schemes.*
- *To find out the impact of minor irrigation source on the cropping pattern, extent of increase in production and improvement in the quality of life.*
- *To know the modus operandi in the management of M.I.Schemes.*
- *To identify the gaps if any between tribal ayacutdars and concerned officials in the implementation of M.I. works.*
- *To ascertain problems of tribals in the implementation and maintenance of irrigation works.*

SELECTION OF THE AREA AND VILLAGES

1.9 K.R.Puram ITDA was selected for the study due to large extent coverage i.e. (6824.57 Ha) when compared to other ITDAs from 1995-96 to 1998-99 by spending Rs.269.43 lakhs. It was felt necessary to study the extent of utilization of M.I. schemes by the tribals, change in cropping pattern, improvement in the productivity and living standards besides level of beneficiaries' participation.

1.10 Broadly the design adopted for the study was purposive random sampling. Initially, discussions were held with the Project Officer, ITDA, K.R.Puram and Engineering staff of Special Minor Irrigation Division, K.R.Puram. Later, information on scheme-wise and year-wise M.I. works completed with extent brought under irrigation and amount spent on each scheme was collected. On the basis of information provided by SMI Division, three mandals viz. Buttayagudem, Polavaram, and Jeelugumilli were selected and in each Mandal, different schemes were selected basing on accessibility criteria. Simultaneously, information on C.I. wells was also collected from the MPDOs of concerned mandals and selected only a few villages. The team could not visit sufficient number of C.I. wells due to lack of information on electrification and supply of electric motors to the individuals either at the concerned MPDO or ITDA headquarters. Altogether, 11 villages in three

mandals were visited by selecting different schemes like check dams, tanks, lift irrigation, and community irrigation wells. Some of the repair works were also visited by the team to know its usefulness and efficiency of the scheme. The Mandal-wise and village-wise schemes selected are given in Annexure: 1

METHODOLOGY

1.11 Two types of schedules viz. Beneficiary Schedule and Village Schedule were prepared for eliciting the information. Initially, discussions were held with the Project Officer, ITDA and Engineering Staff of SMI Division, K.R.Puram and recorded their views on various schemes, procedures and people's participation in the implementation of the schemes. On reaching the village, the team divided itself into two groups. One group was engaged in canvassing of the schedules for eliciting the information from the beneficiaries, while the other group visited the spot for physical verification of the scheme. Later on, group discussions were also held with the beneficiaries to ascertain their views on the scheme. At the end of the fieldwork, discussions were held with the Engineering Staff of SMI Division to give feedback and also help them to take some immediate corrective measures for effective functioning of the schemes.

PERIOD OF STUDY

1.12 The fieldwork was conducted from 10th July to 20th July 2000.

CHAPTER: II

MINOR IRRIGATION PROGRAMMES IN THE TRIBAL AREAS

2.1 Tribals in the Sub-Plan area are endowed with land but the productivity is low despite the fact that the soils are by and large well drained and fertile. The soils often suffer from severe erosion because of undulating terrain, high run off and inadequate soil and moisture conservation measures. Further lack of irrigation facilities, unimproved methods of cultivation, inadequate extension facilities and lack of finance at appropriate time are some of the factors responsible for the low yields in the sub-plan area. No doubt, there is highly seasonal rainfall from June to November and it is quite helpful to rain- fed arable crop production.

2.2 The sub-plan area is richly endowed with perennial streams, rivers and rivulets passing through wooded forests. These sources are not being utilized and the water is going waste. These sources can be utilized effectively for improving the productivity of the tribal lands.

2.3 As irrigation is the key factor for achieving significant increase in the crop productivity, major emphasis is being given to develop irrigation in the sub-plan area. The tribal areas are sometimes subject to severe climatic uncertainty with drought and tribals are forced to purchase their food grains in the open market or D.R. depots.

2.4 In view of rich water resources and low productivity from the fields, the Government of Andhra Pradesh felt necessary for creation of Special Minor Irrigation divisions in each ITDA and subsequently established SMI divisions in all the ITDA areas.

TYPES OF SMALL SCALE IRRIGATION WORKS

2.5 The following are the various irrigation structures being implemented in the tribal areas.

A. Check Dams

2.6 The check dams are mini anicuts built across perennial or ephemeral streams to raise water level and diverted the channels to irrigate small patches of lands adjacent to the channels. The effective length and head of discharge over the check dam will be designed, keeping in view the anticipated maximum flood discharge from the respective catchment's area. Suitable protective works such as flood banks on upstream side, aprons etc. will also be designed for the structure. The size of the irrigation command area usually ranges from 10-25 hectares. These structures usually provide irrigation to kharif crops but if additional water is available, they can cover some 10% to 50% of the command area during rabi season.

B. Minor Irrigation Tanks

2.7 The most common types of irrigation structures in the sub-plan area are micro-reservoirs constructed across the streams having small catchments to store the seasonal run-off for agricultural use. The embankments of the M.I. tanks are built with homogenous earth fill and the surplus weirs in stone/ rubble masonry. It is common to have a cascade of M.I. tanks across a single stream.

C. Lift Irrigation Schemes

2.8 There are two types of lift irrigation schemes viz. a.) Surface lift irrigation works, which are low head river, lift works and b.) Ground water lift irrigation schemes such as tube wells and bore wells. These lift irrigation schemes are designed, built and operated by the Andhra Pradesh State Irrigation Development Corporation (APSIDC). In this type of scheme, the ayacutdars have to bear the electricity as well as the maintenance charges.

D. Community Irrigation Wells

2.9 Though the scheme is named as community irrigation well, in practice it is being implemented as individual well scheme. In this scheme, the ground water is utilized through tube wells or bore wells. In this scheme, only single family will be benefitted.

IMPLEMENTING AGENCIES

2.10 The Special Minor Irrigation Divisions (SMID) attached to each ITDA will survey, plan, prepare design and implement minor irrigation programmes with people's participation. During the year 1994, Government of Andhra Pradesh have issued G.O.M.S. No: 30, dated: 17-02-1994 empowering the local tribal people to implement the M.I. schemes to ensure better quality and proper management and utilization of M.I.works. There are three SMI sub-divisions in K.R. Puram ITDA area. Each SMI sub-division comprises of one Deputy Executive Engineer, 4 Assistant Executive Engineers and supporting staff for maintenance of correspondence etc. In addition, there are Deputy Executive Engineers in each MPDO Office to undertake construction, improvement and maintenance of M.I. works.

2.11 The Andhra Pradesh State Irrigation Development Corporation (APSIDC), which is responsible for grounding lift irrigation schemes, will survey, plan, design and implement lift irrigation schemes. An Executive Engineer in each district is responsible for execution and maintenance of lift irrigation schemes. Hydro-geologists and Geo-physicists of the State Ground Water Directorate are responsible for conducting the detailed field investigations. Technical approval for sanction of schemes upto Rs.10.00 lakhs is accorded by the Executive Engineer, between Rs.10.00 to Rs.50.00 lakhs by the Superintending Engineer and above Rs.50.00 lakhs by the Chief Engineer. Administrative approval of the schemes is accorded by the Project Officer, ITDA upto Rs.2.00 lakhs and the District Collector upto Rs. 10.00 lakhs, and above Rs.10.00 lakhs by the Government.

PROGRESS OF SMI WORKS

2.12 In view of importance given for the development of minor irrigation and to accelerate food production by providing assured irrigation source, a master plan for the development of minor irrigation in the tribal areas of A.P was prepared by Tribal Welfare Department, Government of Andhra Pradesh during 1990 in consultation with the Project Officers and Executive Engineers of SMI Divisions of 8 ITDA areas. The ITDA-wise M.I. schemes identified, proposed ayacuts to be brought under irrigation and amount required are as follows:

S.No	District	No. Of Schemes Proposed	Proposed Ayacuts (Ha)	Approximate Amount (Rs.in Lakhs)
1	Srikakulam	1209	11881	1500.00
2	Vizianagaram	516	10153	1373.00
3	Visakhapatnam	831	17832	1990.00
4	E.Godavari	1300	28284	4640.00
5	W.Godavari	252	16976	4161.00
6	Khammam	52729	158199	19258.00
7	Warangal	844	16814	2820.00
8	Adilabad	3731	24931	5989:00
	TOTAL	61412	285070	41731.00

Source: Master Plan for the Development of Irrigation in Tribal Areas of A.P.

2.13 As against the Master Plan of irrigation, the ITDA-wise achievements from 1995-96 to 1998-99 are as follows:

S.No	ITDA	No.of Schemes Grounded	Ayacut brought under Irrigation (Ha)	Amount Spent (Rs.in Lakhs)	Average amount spent on per Ha. Land Irrigated
1	Seethampeta	276	3451.82	498.52	14440
2	Parvathipuram	59	1267.09	115.81	9140
3	Paderu	293	4715.03	661.27	14025
4	R.C.Varam	119	2461.00	302.38	12287
5	K.R.Puram	157	6824.55	269.43	3949
6	Bhadrachalam	230	2965.19	763.41	25746
7	Eturunagaram	200	3881.88	575.40	14823
8	Utnoor	166	2217.56	1027.53	46336
	TOTAL	**1500**	**27784.12**	**4213.75**	**15166**

Source: SMI Divisions of ITDAs of A.P.

2.14 The data pertaining to physical and financial achievements from 1990-91 to 1999-2000 could not be furnished by some ITDAs and hence the data is given for four years only.

2.15 The above table reveals that in Utnoor ITDA, maximum amount i.e. Rs. 1027.53 lakhs was spent by grounding 166 M.I. works followed by Bhadrachalam (Rs.763.41 lakhs), Paderu (Rs.661.27 lakhs) and Eturunagaram (Rs.575.40 lakhs). Least amount was spent in Parvathipuram ITDA (Rs. 115.81 lakhs) by executing 59 M.I. works. The average amount spent on per hectare land irrigated reveals that it is highest in Utnoor (Rs.46336/-), followed by Bhadrachalam (Rs.25 746/), Eturunagaram (Rs.14823/-) and Seethampeta (Rs.14440/-). Least amount was incurred in K.R.Puram ITDA i.e. Rs.3949/- per hectare of land irrigated. The reason for least amount in K.R.Puram ITDA is due to repair works taken up more than one time on each work and the same extent brought under irrigation was shown several times.

CHAPTER: III

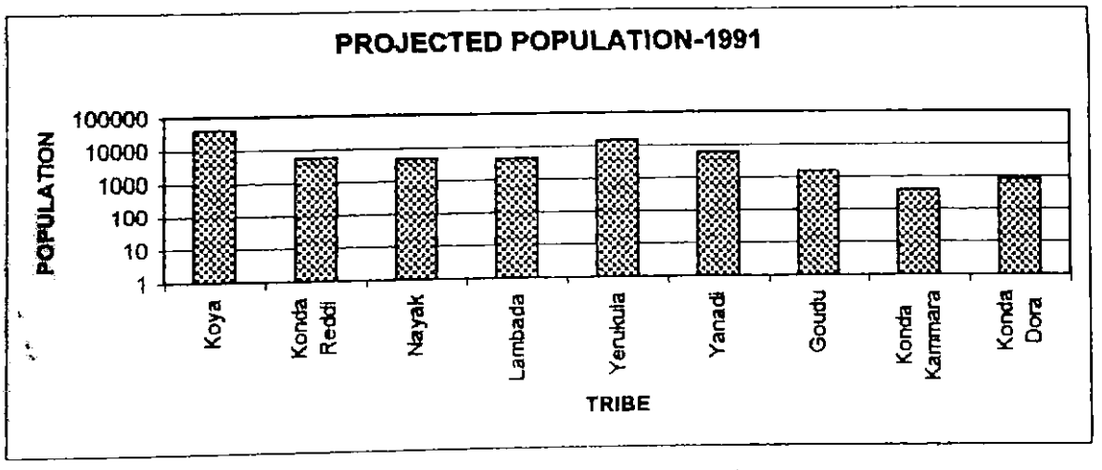
AREA, PEOPLE AND MINOR IRRIGATION PROGRAMMES IN THE STUDY AREA

3.1 The traditional habitat of tribal population in the West Godavari district is almost confined to the forested tracts of Buttayagudem, Jeelugumilli and Polavaram mandals. The Integrated Tribal Development Agency (ITDA), K.R.Puram comprises of 102 scheduled villages of Buttayagudem, Polavaram, and Jeelugumilli mandals and four non-scheduled villages of the neighbouring mandals of T. Narasapuram and Koyyalagudem situated in close proximity to the scheduled villages. The Mandal-wise scheduled and non-scheduled villages are as follows:

S.No	Mandal	No. of Scheduled Villages	No. of Non-Scheduled Villages
1	Buttayagudem	53	0
2	Jeelugumilli	29	0
3	Polavaram	20	0
4	T.Narasapuram	0	3
5	Koyyalagudem	0	1
	TOTAL	102	4

Ethnic Composition

3.2 The total population of the ITDA is 1.13 lakhs with a tribal population of 45,327, which constitutes 39.9% to the total population of the ITDA. The major tribes inhabiting the ITDA area are Koya, Konda Reddi, Lambada and Nayak. Of the above tribal groups, Konda Reddi is recognised as Primitive Tribal Group (PTG). The tribe-wise population is given in Annexure-II.



Socio-Economic Milieu

3.3 The major tribal groups i.e. Koya, Konda Reddi, Nayak, and Lambada are characterized by distinct socio-economic and cultural heritage. The Koyas and Konda Reddis speak 'Kui', a dialect closer to the Dravidian language and Lambadas speak ' Banjari', a dialect of Indo-Aryan linguistic group. Ritually there are broad similarities among Koya, Konda Reddi, and Nayak while the Lambadis have distinct rituals and festivals of their own. Every tribe has a powerful traditional council presided over by a head called ' Pedda Manishi' to safeguard the norms of each tribe and preserve its social and ethnic identity. These village institutions are very much useful for utilizing their services in various developmental activities being implemented by the Government.

3.4 The economy of the tribals in the project area is agro-based. Even though all the tribals are mainly subsisting on agriculture of one type or the other, the forest also plays a vital role in the economy of all the tribals as it provides the variable source of food in the form of MFP, tubers, roots, and fruits and various items of other forest produce for domestic as well as commercial purposes. The agro-forest based economy is however subject to the vagaries of nature and hence the tribals are at the mercy of nature.

Climate

3.5 The average rainfall of this ITDA is 1106 mm and well distributed. One peculiar feature of this ITDA is extension of rainy season from mid May to the end of November. Besides getting about 43 mm of rain in May, it also receives 87 mm of rain in November through North-Eastern Monsoon. This facilitates to take up at least two crops with assured rain.

Soils

3.6 The predominant soils of this area are sandy loam, red gravely along the hill slopes and foothills and clay loams along the Godavari River.

3.7 Agriculture constitutes the sheer anchor of tribal economy as is evident from the fact that out of 26038 working tribal population in the project area, 95.2% are engaged in agriculture sector either as cultivators or agricultural labourers. The distribution of tribal population in agriculture sector is given here under:

S.No	Occupation	Population Engaged	Percentage to Total Working Force
1	Cultivators	9058	36.50
2	Agriculture Labourers	15730	63.50
	TOTAL	**24788**	**100.00**

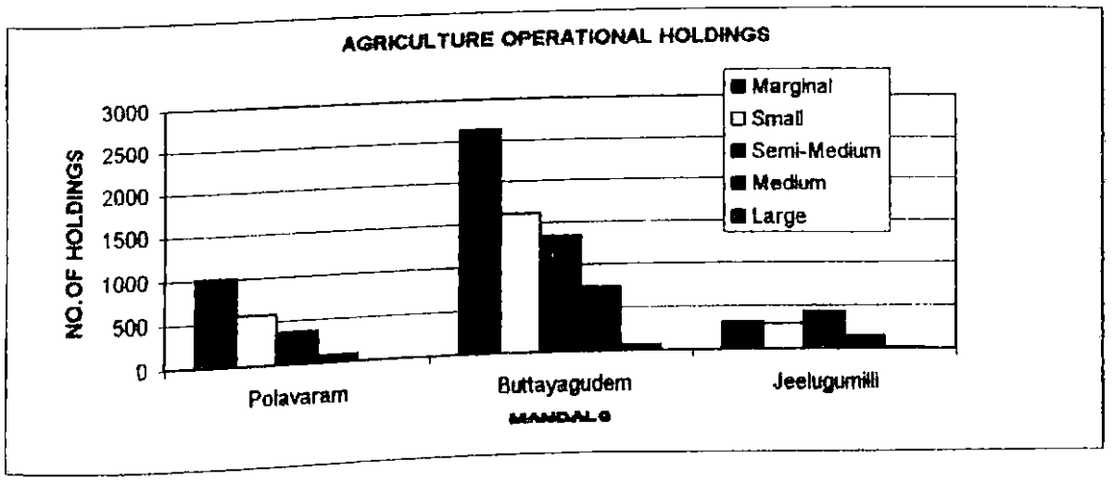
Source: District Census Hand Book-1991, W.Godavari District.

3.8 The above table indicates that only 36.50% of the agriculture population is cultivators and the rest are agricultural labourers. But unfortunately the land available for cultivation is limited in the project area due to topographical and forest limitations. Even some of the land in the project area is under the occupation of non-tribals. The land use pattern in the project area is vivid from the following table:

S.No	Type of Utilization	Area in Hectares
1	Geographical Area	112800
2	Area under Forests	60712
3	Barren Land	11851
4	Non-Agricultural Land	8434
5	Miscellaneous Tree Crops & Groves	1554
6	Cultivable Waste & Other Fallows	7106
7	Net Area Sown	23143

Source: Season and Crop Report-2000.

3.8 The land available for cultivation is very limited i.e. 20.50% and even the available land is fragmented and sub-divided into various uneconomic holdings. The cultivated area by size of holding is given in **Annexure-III.** There are about 9634 holdings with an extent of 44010 hectares under various types of cultivation in the project area. Most of the landholders are marginal farmers (41.10%) followed by small farmers (25.80%) and a very few farmers are large farmers (0.90%). As the family land holding is very limited, the tribals are engaged themselves in podu cultivation which is inevitable. In these circumstances irrigation is the most important factor for increasing the productivity in the limited security.



3.9 An analysis of the irrigation structures constructed from 1990-91 to 1999-2000 and area brought under irrigation in the same period illustrates the improvement in the economy of tribals through change in the cropping pattern and improvement in the yield rates.

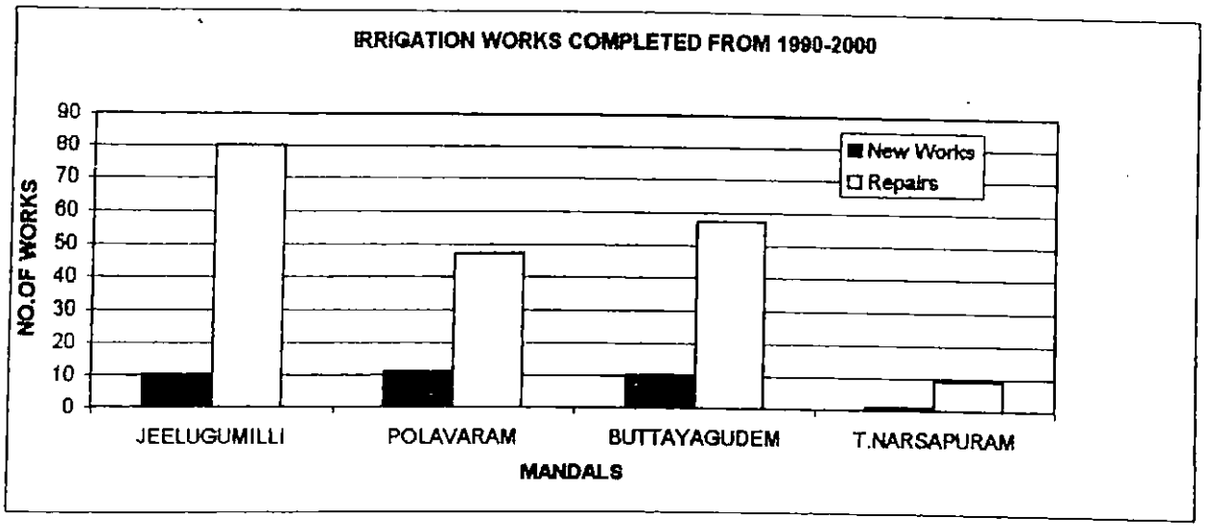
Progress of M.I. Works In the K.R.Puram ITDA Area

3.10 In K.R.Puram ITDA area, under minor irrigation programme various schemes like construction of minor irrigation tanks, check dams, and sinking of bore wells and lift irrigation schemes have been taken up. Mandal-wise physical and financial achievements for the last 10 years period showing schemes completed, ayacuts brought under irrigation and amount spent are given below:

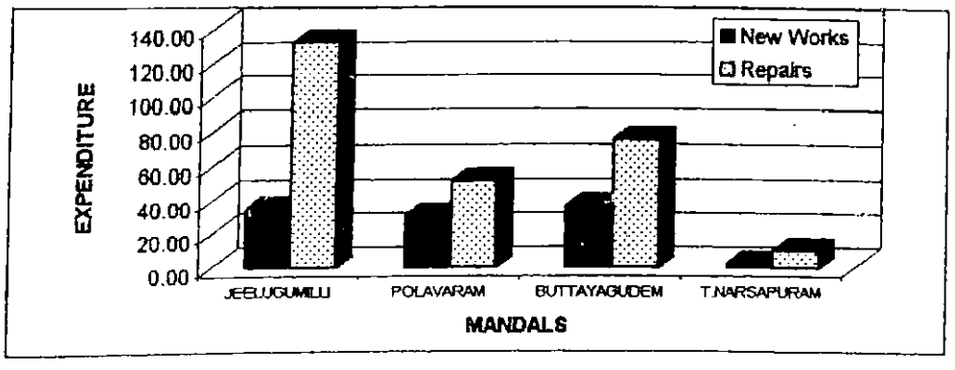
S.No	Mandal	No. of Works Completed		Ayacut brought under Irrigation		Expenditure (In Lakhs)	
		New Works	Repairs	New Works	Repairs	New Works	Repairs
1	Jeelugumilli	10 (11.10)	80 (88.90)	1002 (14.20)	6074 (85.80)	34.70 (20.90)	131.35 (79.10)
2	Polavaram	11 (19.05)	47 (81.00)	496 (23.30)	1635 (76.70)	30.55 (37.40)	51.06 (62.60)
3	Buttayagudem	10 (14.90)	57 (85.10)	310 (5.09)	5911 (95.00)	36.49 (32.80)	74.73 (67.20)
4	T.Narasapuram	1 (10.00)	9 (90.00)	80 (12.30)	570 (87.70)	2.03 (17.00)	9.90 (83.00)
	TOTAL	**32 (14.20)**	**193 (85.80)**	**1888 (11.70)**	**14190 (88.30)**	**103.77 (28.00)**	**267.04 (72.00)**

Source: SMI Division, K.R.Puram.

3.11 The above table reveals that the SMI Division has incurred an amount of Rs.370.81 lakhs for construction of 225 new / repair structures, of which 85.80% of the works were repairs only.



EXPENDITURE INCURRED FOR IRRIGATION WORKS FROM 1999-2000

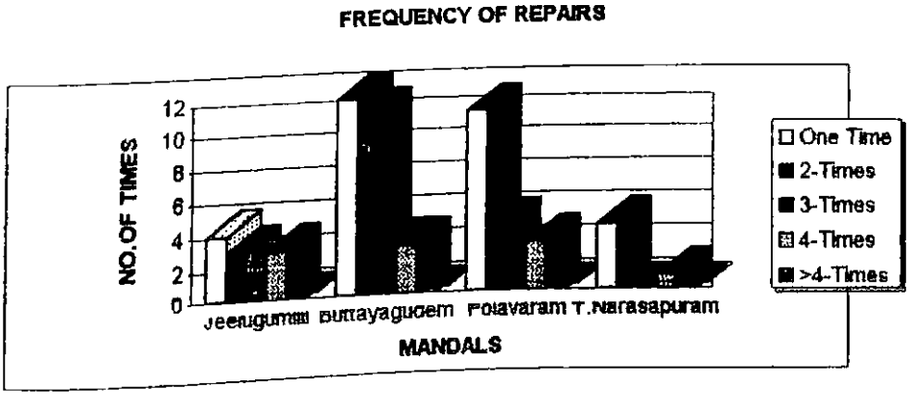


3.12 The SMI division has spent 72.0% of total releases on repairs and only 28.0% on new works. The total ayacuts brought under irrigation was 16,078 acres, of which 88.30% of ayacuts was brought under irrigation due to repairs taken up. For some of the schemes, the repairs were taken up more than once. The following table reveals Mandal-wise repair works taken up more than once.

Sl.No	Mandal	No.of Works	Frequency of Repairs Undertaken				
			One Time	2-Times	3-Times	4-Times	>4-Times
1	Jeelugumilli	90	4	3	1	3	**10** (8,8,5,10,5,5,7,7,5,5)*
2	Buttayagudem	67	12	11	3	3	2 (7, 5)*
3	Polavaram	58	11	4	2	3	2 (7,14)*
4	T.Narasapuram	10	4	--	--	1	--
	TOTAL	**225**	**31 (38.70)**	**19 (23.80)**	**6 (7.50)**	**10 (12.50)**	**14 (17.50)**

* Denotes number of times the repairs taken.

3.13 The above table clearly shows that during the period 1990-91 to 1999-2000 repairs were taken up on 80 works only. Even in many works the repairs have been taken up more than one time. In 23.80% of works, the repairs were taken up twice on each work, 7.50% of works thrice, 12.50% of works four times and in 17.50% of works more than four times. Of the 14 works taken up more than four times, six works have been taken up five times, four works seven times, two works eight times, one work ten times and another work fourteen times. The above analysis reveals that the SMI Division has paid more attention on repair works.



3.14 The details of repairs taken up for fourteen times on a single scheme during 1990-91 to 1997-98 is highlighted in the scheme of Pedderu Vagu check dam of Mulagalagudem village of Jeelugumilli Mandal.

S.No	Year	No. of Beneficiaries	Extent (Acres)	Amount Spent (In Lakhs)
1	1990-91	50	--	0.87
2	1990-91	--	--	1.02
3	1990-91	--	--	1.07
4	1990-91	--	--	1.14
5	1992-93	107	91.00	3.57
6	1995-96	--	--	4.17
7	1995-96	--	8.00	4.32
8	1996-97	--	--	0.28
9	1996-97	--	--	0.28
10	1996-97	--	--	0.23
11	1996-97	--	--	0.45
12	1997-98	--	--	0.16
13	1997-98	--	--	0.46
14	1997-98	--	--	0.29
	TOTAL	157	99.00	18.31

3.15 But actual land under irrigation in the above tank is only 141.00 acres. In one year, the repair works were taken up more than one time during the years 1990-91, 1995-96, 1996-97, and 1997-98. In this connection, it is essential to examine the necessity of such frequent repairs to single check dam by investing huge amounts.

3.16 It was also noticed that in Jeelugumilli Mandal, importance was given to repairs than new works. In this Mandal, out of 90 M.I. works grounded from 1990-91 to 1999-2000, only 11.11% were new works and the rest were repairs. In Buttayagudem Mandal, 14.92% were new works and in T.Narasapuram Mandal out of 10 works grounded, only one was new work.

3.17 The year-wise works completed by each sub-division reveals that in Jeelugumilli Mandal during 1997-98, 27 repair works and 2 new works and in 1998-99, 18 repair works and only one new work were grounded. During 1993-94, 1994-95,1995-96, and 1999-2000, only repairs were taken up. In

T.Narasapuram sub-division, only one new work was taken up during 1990-91 and in the rest of the period repairs were undertaken.

3.18 In Buttayagudem Mandal, 67 M.I. works were grounded from 1990-91 to 1999-2000, of which only 6 were new works. During 1993-94,1996-97,1997-98, and 1999-2000, repair works of 14, 3, 14, and 2 respectively were taken up. The details of Mandal-wise and year-wise number of new works and repairs taken up by SMI Division are given in **Annexure: IV to VIII.**

3.19 It is pertinent to note that out of 99 works identified in the master plan for the development of irrigation in West Godavari district to be implemented from 1990-91 to 1999-2000, only 32 new works were taken up during the above period and emphasis was given to repair works by taking up 193 works. In this connection, there is an urgent need to conduct a special technical study on the repair works and their impact on improving irrigation facilities to the tribal lands.

Progress of C.I. Wells

3.20 The grounding of C.I. wells has been undertaken by the MPDOs of concerned mandals. It is being implemented under JRY Million Wells Programme. The Mandal-wise number of C.I. wells grounded, families benefited, ayacuts brought under irrigation and wells energized from 1988-89 to 1999-2000 is given below:

S.No	Mandal	No.of Wells Completed	Ayacut brought under Irrigation (Acres)	Amount Spent (In lakhs)	Wells Energized
1	Buttayagudem	174	942.56	56.15	139
2	Jeelugumilli	131	759.00	40.17	59
3	Polavaram	27	176.46	5.36	14
	TOTAL	**332**	**1878.02**	**101.68**	**212**

Source: MPDOs of ITDA, K.R.Puram.

3.21 The above table shows that in K.R.Puram ITDA area, 332 individual wells were completed from 1988-89 to 1999-2000 benefitting 332 families. The total land brought under irrigation (as per records) was 1878.02 acres. Out of

332 wells grounded, only 212 wells were energized which constitutes 63.80%. The remaining wells are not functioning, as electrification was not done. An average amount of Rs.5414/- per acre was spent for irrigation under C.I. wells scheme. The details are given in **Annexure-IX**. There is cumbersome procedure for providing electrical lines and supply of motors. Initially, the beneficiary has to apply to the Transco for L.T. connection. The A.P.Transco will inform the ITDA to pay Rs.125/- plus deposit amount of Rs.275/- per connection. After receiving the above amount the A.P.Transco will provide the service line. Later the ITDA will ask the MPDO to collect the application from the beneficiary by taking consent of the bank to meet 30% loan and send the same to the ITDA. Then only the ITDA will purchase the motors and supply to the beneficiaries. The ITDA officials informed the team members that neither the bank officials nor the beneficiaries are coming forward to meet 30% beneficiary contribution and hence the delay. The beneficiaries at the same time complained that unless there is regular pursuation with A.P.Transco, MPDO and ITDA office, electrification and supply of motors is not being materialized.

Participation

3.22 As per the information provided by the SMI Division, K.R.Puram, the execution of total 32 new works were attended by the local tribals and out of 193 repair works, 177 were grounded by the tribals and the rest by the non-tribals. But as observed by the team, the grounding of all the M.I. schemes was entrusted either to local VTDAs or tribal contractor. But the execution of most of the works was attended by the non-tribal contractors. The members of VTDA informed that the works are not entrusted to them, but at the same time, the staff of SMI division reported that the tribals have no knowledge in the construction activity and if they take up the construction, they will not complete the work as per schedule unless there is regular pursuation.

Land Development

3.23 The land in the tribal areas is undulating and the topsoil is eroded during the rainy season. In these circumstances, land development is most essential where ever the irrigation structure is taken up. Otherwise, there is no use of constructing the M.I. structure. As per the data provided by the SMI Division

in Annexure-IV, the total land brought under irrigation by constructing the M.I.structures from 1990-91 to 1999-2000 was 6509 Ha of which only 121 Ha of land was treated with land development. This is another factor for low productivity.

Cropping pattern

3.24 The cropping pattern in the tribal area of West Godavari was once characterized by predominance of food crops, which indicates subsistence level of economy of tribals. They used to grow crops like jowar, sama, maize, paddy and cash crops like tobacco and chillies to a less extent. Cropping pattern is one of the most important factors to be considered in the planning of agriculture. This involves the consideration of the selection of the crops in each crop season and their rotation. In order to estimate the change in cropping pattern, data on cropping pattern for the years 1990-91 and 1999-2000 is collected and presented below:

S.No	Crop	EXTENT (Ha)		Difference	
		1990-91	1999-2000	Area in Ha.	Percentage
1	Paddy	9072	9221	+149	+1.64
2	Jowar	1323	313	-1010	-76.30
3	Maize	71	123	+52	+73.20
4	Pulses	2868	2503	-365	-12.70
5	Chillies	843	431	-412	-48.90
6	Tobacco	4962	5702	+740	+14.90
7	Sugarcane	711	1885	+1174	+165.10
8	Cashew	2595	4154	+1559	+60.10
9	Mango	1426	1430	+4	+0.30
10	Other Crops	2197	2289	+92	+4.20
11	Gross Area Sown	26068	27912	+1844	+7.10
12	Area Sown More than Once	3924	4310	+386	+9.80

Source: Season and Crop Report-2000.

3.25 The above table illustrates that only 1844 Ha of gross area was increased from 1990-91 to 1999-2000 of which the area sown more than once is 386 Ha. The cultivation of paddy is increased by only 1.70% from 1990-91 to 1999-2000,

maize by 75.20%, tobacco by 14.9% and sugarcane by 165.10%. Jowar cultivation is drastically reduced from 1323 Ha to 313 Ha and the area under sugarcane is increased by 1174 Ha. They have given importance to sugarcane cultivation. The extent of cashew cultivation is also considerably increased. The gross area is increased only by 7.10% and the area sown more than once by 9.80% from 1990-91 to 1999-2000. The above data clearly shows that there is a slight shift from food crops to commercial crops.

3.26 The above data further reveals that only about 1450 Ha of extra land was brought under irrigation from 1990-91 to 1999-2000. The amount spent on irrigation during the period was 472.46 lakhs, which works out to Rs. 32,583 per Ha of land irrigated.

Yields

3.27 The yield of most of the crops in the ITDA area is much lower due to various reasons. The yields of some of the crops like paddy, tobacco, sugarcane etc can be drastically improved provided irrigation facility, HYV seeds and fertilizers and pesticides are used. In the irrigated lands, the yields of paddy in kharif season are two tones per hectare. The average yields of tobacco, maize, and groundnut in the ITDA area are relatively lowered to the district average because of the deficiency of Phosphorous and Potassium in the soil. The average comparative yields of some of the crops in the project area and the district is given below:

S.No	Crop	District (Tonnes/ Ha)	ITDA (Tonnes/ Ha)
1	Paddy	3.45	2.20
2	Jowar	0.65	0.60
3	Tobacco	1.85	0.70
4	Maize	2.75	0.80
5	Chillies	1.00	1.25
6	Groundnut	2.10	1.00

3.28 There is perceptible disparity in the per hectare yields between the ITDA and the district. The low yields in the project area can sustain the tribal farmer only

for a part of the year and they are forced to buy food crops or borrow money from other sources for the rest of the period. Hence, there is every need to improve the yield rates by way of assured water supply, provision of scientific knowledge on cultivation methods, adopting soil conservation techniques etc.

CHAPTER: IV

STUDY RESULTS

4.1 Irrigation is very important element to increase the yields in several folds and thereby boost up the economy of the tribals. The land resources are well suited for all crops including horticulture in KR.Puram ITDA area. The non-tribals in the neighbouring area have virtually become highly prosperous by utilizing the irrigation sources available in the area. The economy of the tribals will also be drastically improved if irrigation sources are provided and properly utilized. The present study illustrates the irrigation sources provided by the Government and the stage of the tribals after utilizing the resources.

4.2 Most of the tribals are familiar with wet crops like paddy cultivation and they have necessary skills also to construct the M.I works. Previously, they used to construct temporary diversion structures across the perennial streams and divert the water to the fields. But these diversion structures were being washed away during the floods and the tribals will have to repair or re-build the same during the rainy season. The dry lands in the area are undulating and without taking up land development, the diversion structures or tanks constructed will become useless.

4.3 The present study was conducted in 11 villages covering 3 mandals viz; Buttayagudem, Jeelugumilli, and Polavaram in K.R. Puram ITDA area of West Godavari district. During selection, all types of M.I schemes were covered to know the impact of those schemes on the economy of tribals. Mandal-wise schemes selected are as follows:

S.No	Mandal	No. of Villages	NUMBER OF SCHEMES VISITED					
			New Check dams	Repairs to Check dams	New Tanks	Repairs to Tanks	C.I Wells	L.I Schemes
1	Buttayagudem	5	1	1	0	0	1	2
2	Jeelugumilli	3	1	0	1	1	3	0
3	Polavaram	3	1	1	0	0	1	0
	TOTAL	11	3	2	1	1	5	2

4.4 Altogether 11 villages covering three mandals viz. Buttayagudem, Jeelugumilli, and Polavaram were covered by selecting five check dams (3 new and 2 repairs), two tanks (1 new and 1 repair), five C.I. Wells and two L.I.Schemes for the study. The scheme-wise details are as follows:

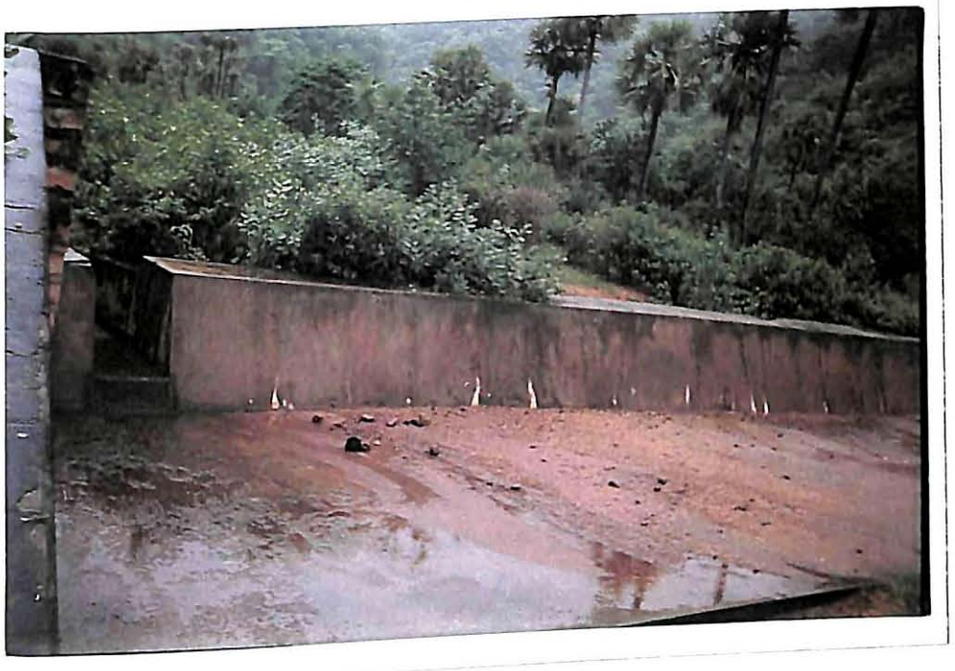
A. CHECK DAMS

4.5 The check dams have been constructed on perennial hill streams. These streams can supply water almost throughout the year except for 2 or 3 months during summer. In Munjuluru village, the construction work was started during 1995-96 and completed during 1999-2000 due to lack of co-operation among the ayacutdars. Sluice is to be provided with a gate. Because of this, the water is going into the stream instead of fields. After completion of the work, only five families have been cultivating the wet crops like paddy and cotton and getting yields. The remaining families could not convert their lands into wet due to undulating terrain. The canals are also not reaching to their field. The tribals who have taken up land development on their own cost, are cultivating wet crops. Thus, the scheme is underutilized, as land development was not taken up besides not providing gates to the sluice resulting in wastage of water.

4.6 In Vankavarigudem village of Jeelugumilli Mandal, surprisingly the check dam is serving only to four tribal families with an extent of 11.00 acres and one non-tribal family with 13.00 acres of land. The four tribal families were irrigating their lands from the stream even before construction of the check

dam. Thus the present check dam as it appears is planned to benefit the non-tribal landlord.

4.7 The other check dam at Chegondipalli village of Polavaram Mandal, which was constructed during 1991-92, was defunct due to disputes among the ayacutdars and it was filled with silt.



4.8 The repairs taken up to a check dam at Palakunta village were useful to two new farmers only. They have constructed vents on the canal. The check dam as well as the canals were also filled with silt and the farmers are removing the silt every year along the canal and utilizing the water.

4.9 The check dam constructed in Mulagalagudem village is functioning well and 11 families of Mulagalgudem and 4 families of Gadilagondi have been successfully cultivating their lands. In this check dam also the silt was deposited.

B.TANKS

4.10 Number of tanks has been constructed in K.R.Puram I.T.D.A and they are the main source of irrigation for the tribals. The maintenance cost is also cheap when compared to check dams. The team had visited a new tank constructed during 1998-99 at T. Gangannagudem village of Jeelugumilli Mandal. Nearly 15 families with an extent of 30.00 acres are benefitted. Land development

was also taken up in the fields. During the recent heavy rains, there were some breaches occurred to the tank. Due to lack of shutters to the sluices, the water was continuously flowing into the channels. The staff of SMI informed that they have to prepare fresh proposal for the shutters and to be attended to.

4.11 Repairing work had been taken up to a tank of 25 years old in Datlavarigudem village of Jeelugumilli Mandal. The right side guide bund of surplus escape was also strengthened for a length of 90 metres. Similarly repairs to the channels and masonry structure were attended. But the water is not flowing into the channels. The beneficiaries informed that they could get water only when the tank is full of water. There is heavy seepage of water. The land under irrigation was only four acres. The beneficiaries reported that the crops will not get water if the level of water in the tank decreases.

C. LIFT IRRIGATION SCHEMES

4.12 Most of the L.I schemes in the ITDA area were defunct. As informed by the ITDA staff, there is only one L.I scheme i.e. Kovvada of Buttayagudem Mandal which was completed during April, 2000 and is functioning by irrigating 65.00 acres of land. The rest were defunct due to mechanical defect or non-payment of electrical charges. In Pedakapavaram village of Buttayagudem Mandal, LI schemes was sanctioned and grounded during 1994-95 but it was left idle due to lack of power connection. After several representations to the Project Officer, ITDA, they supplied electric motor during June 2000. But the power supply was not given to the electric motor. If it runs properly, nearly 10 families with an extent of 20 acres will be benefitted.

4.13 In Lankapalli village, L.I scheme was sanctioned during 1996-97. The scheme was intended to lift water from Peddavagu, a perennial stream. Electric motor was fitted during December 1999 and power supply was given in the month of June 2000. Due to mechanical defect of foot valve, the scheme was not functioning during the visit of the team. The total beneficiaries under the scheme are 11 and the extent to be irrigated will be nearly 40.00 acres.

D. COMMUNITY IRRIGATION WELLS

4.14 The term Community Irrigation Wells (CI Wells) in KR.Puram ITDA refers to individual wells, bore wells and tube wells. They are sanctioned to individual families. But unfortunately, there is no co-ordination between ITDA and Electricity Board. The ITDA is sanctioning bore wells to the individual families and the beneficiaries themselves are executing the scheme. Electric motors are being supplied to the beneficiaries after several representations to the Project Officer and depending upon the availability of funds in the ITDA. There are number of wells in the ITDA without having any motor. Again on the pursuation by the beneficiary, the power supply is being provided. In some villages even after 10 years of grounding the well, they could not get power supply.

4.15 Even the wells energized were not functioning due to various reasons like mechanical defect of the motor, non-payment of electricity charges and unsuitability of the motor to the well which shows that the implementing authorities have not been thoroughly examined the utility of old wells already given before recommending new wells in the subsequent years.

4.16 In Itikalakota village of Polavaram Mandal, individual bore wells were sanctioned to 3 beneficiaries of Polavaram Mandal during 1995-96 and electric motors with 5 H P capacity were supplied to these 3 beneficiaries in the year 1997-98. The motors supplied were not suitable to the bore as the water level was very low. They informed the team that only submersible pump sets are suitable to the wells and requested to supply the same. All the 3 motors fitted to the wells are defunct in the village since 3 years due to improper selection and supply of motors.

4.17 In another village i.e. Datlavarigudem of Jeelugumilli Mandal, 6 beneficiaries were sanctioned individual wells and grounded during 1993-94. Till now, neither electric motors nor power supply were given to the wells.

4.18 The scheme was successful wherever all the components are fulfilled in time. One woman beneficiary namely P. Mahalakshmi, w/o Pedda Gangulu, a 60

years old Koya woman was identified under individual well scheme during 1992-93 and grounded the scheme. Immediately, a 5 HP motor and power connection was also provided. She has successfully cultivated the lands for three years. Then due to fall of water level in the well, the 5 HP motor could not pump water from the well. The beneficiary then sold away the 5 HP motor supplied by the ITDA and purchased a submersible pump by investing Rs. 27,000/-. She is successfully cultivating two crops in a year besides giving water to her neighbours on rental basis. She paid back all the loans worth Rs. 15,000/- and marriage was performed to her daughter.

4.19 In another case in T.Gangannagudem village of Jeelugumilli Mandal, a few beneficiaries were identified under JRY Million Wells Programme and provided individual wells 10 years back. Last year, they were supplied with electric motor and power connection. They are now raising commercial crops like sugar cane, tobacco etc, and getting good income.

PARTICIPATION

4.20 Participation in the development process has been an important strategy to achieve success including sustainability, Sustainable development requires enduring interest among the users of development programmes. This interest will be enhanced when these programmes are clearly understood by the beneficiaries and implemented properly. The programmes designed and implemented at users level will be more sustainable as compared to others.

4.21 It is not surprising to note that the concept of participatory partnership is not followed in the implementation of irrigation works in K.R.Puram ITDA area. Let us examine the stage-wise participation of beneficiaries in the implementation process of M.I works.

Identification of Resources

4.22 Identification and selection of small-scale irrigation works for development, improvement/ construction has to be done during Grama Sabha meetings where officials of ITDA from Soil Conservation, Irrigation, Agriculture and Horticulture departments have to be attended. They would be closely interact with the tribals to become sensitized to the problems and map the resources

such as irrigation resources, land resources, land development activities, types of crops suited to the area etc and finalize the proposals for taking up in the respective villages.

4.23 In the study villages of K.R.Puram ITDA area, motivation meetings were held in 45% of the selected villages. In those villages, the irrigation staff alone visited the villages, discussed and took opinion of the farmers. In most of the villages the sites for construction of irrigation structures were selected after consulting the villagers. 82% of the beneficiaries in the selected villages were consulted in identification of the resources. (Annexure- X).

Training

4.24 Where ever the minor irrigation works are intact and working, there is lack of water management practices and neither the field staff nor the tribal farmers are exposed/ trained in systematic irrigation methods. Training in water management should form a significant component in crop production.

4.25 Ayacutdars would be given training in scheduling, water management, methods of land levelling, cropping patterns, operation and maintenance of accounts etc by the SMI Division. Prior to implementation of the irrigation schemes, some selected tribal youths in each village have to be given training in masonry and in case of L.I. schemes in operation and maintenance of pumps. But this type of trainings was not given to tribal beneficiaries in any selected villages (Annexure-X).

Execution of Works

4.26 The stakeholders of irrigation schemes have to be organized into informal Water Users Association or Ayacutdars Associations for execution and maintenance of irrigation structures. They have to contribute labour for construction of the scheme, so that they can have feeling of their own and the quality can also be ensured. They can also save a portion of sanctioned amount, which can be used for maintenance.

4.27 In the studied villages, respective Village Tribal Development Associations executed only 18% of the works and the rest 82% of works by non-tribal

contractors. Few works were sanctioned in the name of tribals and the non-tribal contractors attended the execution. In some villages, the local tribals were worked as labourers and in many villages, the non-tribal contractors brought non-tribal workers from the plain areas and executed the works. 60% of the beneficiaries informed that they have participated in the construction of irrigation structures either partially or fully (Annexure-X). One interesting feature is that wherever the local tribals involved in the construction activity, they are functioning well. In Munjuluru village, the local tribals involved in the construction of check dam work and they are maintaining the structure well. So also in Marlagudem village, a woman beneficiary dug C.I well and getting good crops.

4.28 Regarding quality of construction of irrigation structures, the stakeholders of the study villages informed that only 27% of the works are good, 36.4% are satisfactory, and the rest of the works are not good.

Maintenance

4.29 The maintenance is an important aspect in proper functioning of any irrigation structure. Maintenance of completed irrigation schemes would be the responsibility of the ayacutdars but the major repairs would be the responsibility of Minor Irrigation Department. But unfortunately, most of the irrigation structures in the sub-plan area are not working due to lack of maintenance. Due to hilly terrain, the topsoil is being eroded leading to silting of check dams/ M.I tanks. Due to financial constraints and non-cooperation among the ayacutdars, the silt deposited is not removed. In view of this problem, the ayacutdars would be imparted training in structure and water management, irrigation scheduling, crop planning, and system supervision. The ayacutdars would be motivated to contribute cash and the ITDA have to give matching grant equal to the contributions raised by the ayacutdars. The amount would be kept in the bank and the interest accrued on it would be utilized for maintenance every year. The SMI Division has to take willingness of the ayacutdars to meet the maintenance cost before sanctioning any irrigation structure in the tribal areas. Otherwise they will become defunct after one or two years.

4.30 Similarly ayacutdars would be encouraged to nominate one of the farmers/ ayacutdars to irrigate water to all fields impartially and regularly and attend to minor repairs. He would be paid grain depending upon the extent of irrigated land under the structure at the time of harvest.

Functioning of the Irrigation Structures

4.31 The irrigation structures in the study villages were visited by the team and after seeing the field situation and discussions with the local stakeholders, the functioning of the structures was assessed. Out of the total structures visited by the team, only 27.2% were in working condition, 27.2% were in partially working condition i.e. only limited extent is being irrigated due to mechanical defects in the structure and the rest were not functioning. The reasons for not functioning are:

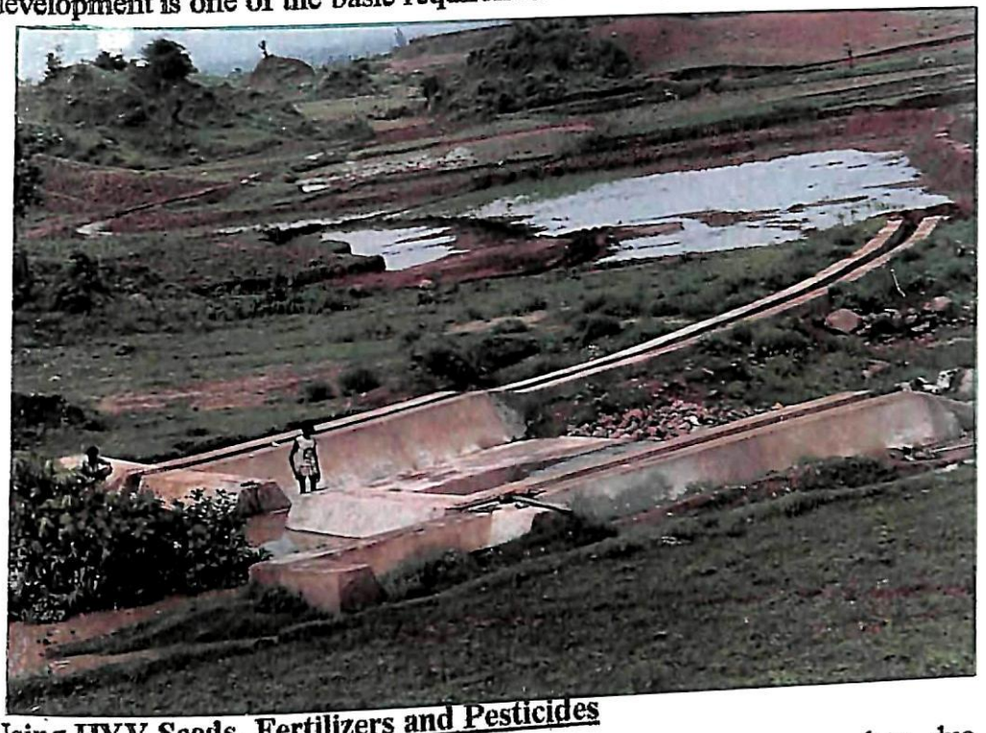
- Deposit of silt in the check dam and canals.
- Seepage of water from the tanks.
- Non-payment of electrical charges in case of L.I. Schemes.
- Non- cooperation among the stakeholders.

Land Converted into Wet

4.32 Due to construction of new structures and repairs taken up to old structures, 26% of the total land held by the beneficiaries in the selected villages was brought under irrigation. Mostly the beneficiaries under irrigation structures taken up recently are being benefitted. Maximum number of beneficiaries is being benefitted in T.Gangannagudem village of Jeelugumilli Mandal due to land development works taken up immediately after the construction of tank. There was no extra land brought under irrigation in Vankavarigudem village of Jeelugumilli Mandal. The extent of land, which was irrigated prior to and after construction of check dam, is one and the same (Annexure No-XI).

4.33 In some of the irrigation structures, the water could not be utilized by the beneficiaries due to undulating terrain of the lands. Wherever the irrigation structures are taken up, land development should be preceded in the ayacuts proposed. The plans for the land development activities prepared by SMI Division would be handed over to the Agriculture/ Soil Conservation wing for

the purpose of executing the works. Land development works would be carried out strictly in accordance with the established technical criteria in order to ensure that all the ayacutdars have access to the irrigation services. Otherwise the lands will remain as dry only. Among the selected villages, land development was taken up only in T.Gangannagudem village where the beneficiaries are successfully utilizing the water from the tank and cultivating paddy. In Munjuluru village, the proposed ayacuts was not brought under irrigation due to uneven land. Some of the beneficiaries had taken up land development at their own cost and brought their lands under irrigation. During the discussions with the ayacutdars, they have informed that systematic land development is one of the basic requirements for irrigated agriculture.



Using HYV Seeds, Fertilizers and Pesticides

4.34 The yields from the traditional varieties of food crops were low due to conventional techniques used by the tribals. They were using only natural manure both for dry and wet crops. Now, with the influence of non-tribals in the adjoining villages, almost all the tribals are using high yielding variety seeds supported by chemical fertilizers and pesticides. Once upon a time the tribals were cultivating only millets like jowar, ragi, sama etc and now the cropping pattern is changed. They are cultivating commercial crops like chillies, tobacco, sugarcane etc (Annexure-XII).

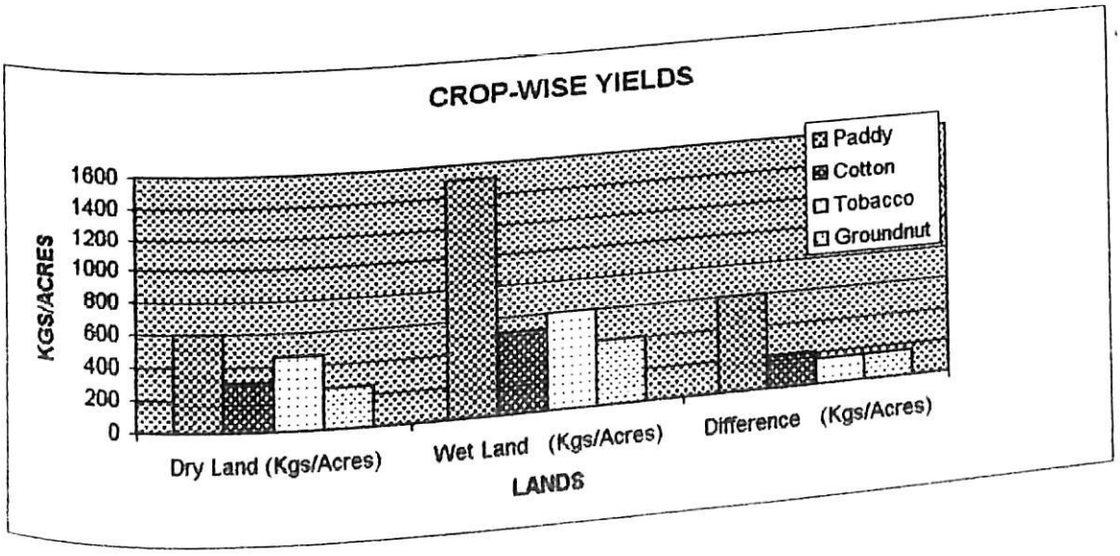
Demonstration Plots

4.35 Since majority of the tribal farmers are not exposed to the technological innovations, there is every need for conducting sample field demonstrations, which will bring substantial increase in the production. This is to be carried out involving the tribal farmers in their own fields with regular monitoring by agricultural staff. Once the farmers witness the results in their own fields, they will accept the innovations and realize their importance for improving the production. But these types of D' Plots were not come across to the team during the survey.

Change in the Cropping Pattern

4.36 The main cereal crops in the study area are jowar, maize, sama, ragi, and paddy and pulse crops like black gram, horse gram, bengal gram and red gram and the principal oil seeds are castor and groundnut. The growing of cash crops like sugarcane, cotton, tobacco and chillies is significant feature in some areas.

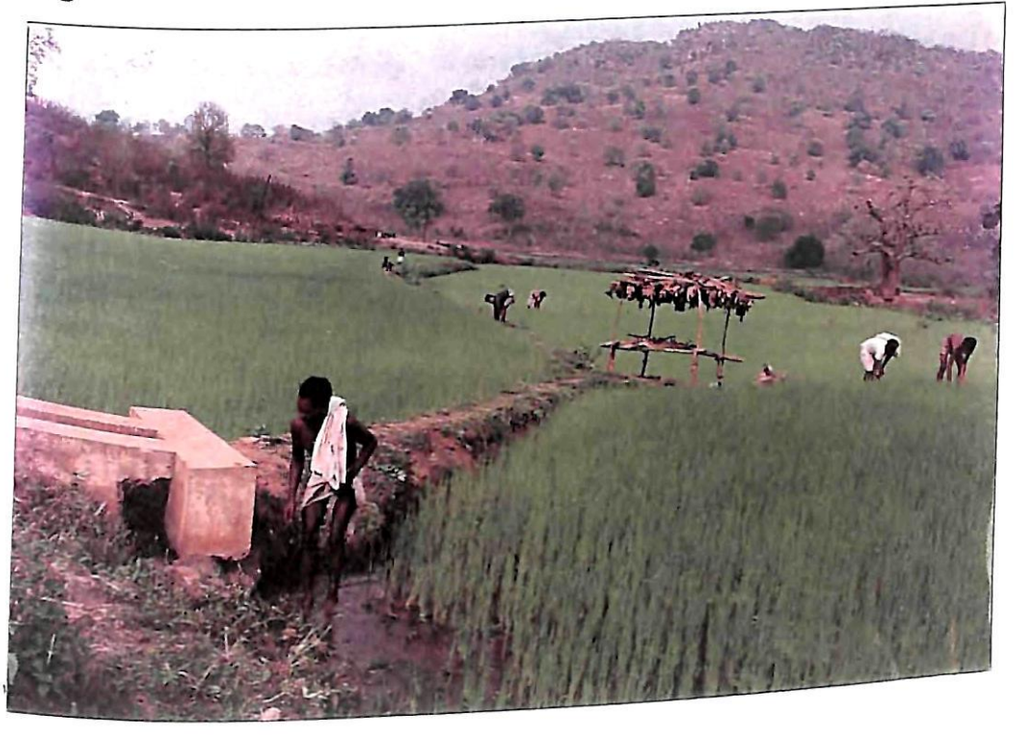
4.37 Farmers vary their crop rotation basing on the onset of the monsoons. If the monsoons start earlier, they used to raise wet paddy or tobacco in the irrigated lands followed by black gram or horse gram. In the dry lands, they cultivate jowar, dry paddy, tobacco, cotton, black gram etc. The yield rates of irrigated crops are much higher when compared to the dry crops. The difference in the yield rates of dry and wet land crops is given below:



4.38 The above figures indicate that there is marked difference in the yield rates of dry and wet crops. These yield rates are low when compared to district averages due to lack of proper technical know-how and other economic factors.

Food Security

4.39 The yields in the podu and dry lands are low due to traditional methods being used. They do not use fertilizers and pesticides for dry and podu lands. They use only natural manure to the dry lands and hence the yield rates are very low. In the dry lands they cultivate " Budama", a local paddy variety and its yield is very low i.e. 250 Kgs per acre. In some of the villages, the tribals are not habituated for paddy cultivation and hence the yields are low. In Munjuluru village of Buttayagudem Mandal due to inefficient water management, low usage of fertilizers and lack of guidance from the agricultural staff, the yield was very low. In the villages where irrigation structures are properly maintained and using the latest techniques in agriculture, they are getting better yields from their wetlands. In Palakunta village of Buttayagudem Mandal and Datlavarigudem village of Jeelugumilli Mandal, the stakeholders are getting 15 to 20 quintals of paddy per acre. The following table reveals the increase of income in an acre of land in different villages.



S.No	Village	Land Brought Under Irrigation	Income from Wet Land (Rs.)	Average Income Per Acre (Rs.)
1	Munjuluru	5.50	61636	11206
2	Palakunta	7.00	51000	7285
3	Datlavarigudem	1.50	7800	5200
4	T.Gangannagudem	9.00	15900	1767
5	Mulagalgudem	1.50	4800	3200

4.40 The above table reveals that maximum income per acre was noticed in Munjuluru village due to cultivation of commercial crops i.e. tobacco in irrigated lands. In the villages of Palakunta and Datlavarigudem, the irrigation source was stabilized and maintained. In T.Gangannagudem village, the construction of M.I. tank and land development were taken up recently and hence the yield was low. In Mulagalgudem village, the stakeholders have not adapted to new techniques of agriculture and hence getting low yields (Annexure-XIII).

4.41 The above analysis clearly shows that wherever the irrigation structures are being maintained properly, those structures are functioning well and the beneficiaries are receiving good yields.

Changes in the Living Standards

4.42 Living standards of a family depend on income and expenditure. The improvement in living conditions can be judged through various parameters like intake of food, wearing of dress, educational levels, and assets possessed by the family.

4.43 It was observed that wherever the irrigation sources were properly utilized, they were economically sound. The families taking jowar gruel twice daily prior to irrigation source are now taking rice thrice a day besides vegetables and non-vegetarian items at least twice or thrice a week.

4.44 As regards dress, they are very conscious and spending considerable amounts for purchase of white dresses (dhoti and shirt) by men and colorful sarees by

the women. Some families have purchased land, radios, furniture etc. The details are furnished in **Annexure-XIV.**

Monitoring and Evaluation

4.45 For successful implementation of M.I. Works, constant monitoring and control are necessary on the progress and functioning of M.I.Works. It is observed that after completion of M.I. Works, there is no proper monitoring of the schemes i.e. whether it is fulfilling the objectives like proper utilization of water to the targetted acreage etc. It is necessary to entrust this job to Monitoring Section of ITDA. They can regularly inspect the functioning of the Check Dams/ M.I.Tanks / C.I. Wells/ L.I.Schemes and brought it to the notice of the Project Officer, ITDA. The gaps in the implementation can be identified and sorted out for optimal utilization of the scheme for which it was created instead of wasting money on such schemes, which are becoming archives in near future. The Project Officer ought to review the position of structures in co-ordination with the VTDAs.

CHAPTER: V

FINDINGS AND RECOMMENDATIONS

5.1 Tribals since time immemorial have constructed temporary diversion structures across the streams by community co-operation effort and water diverted by gravity through channels for irrigating their lands. It is a matter of pleasant surprise to see how the farmers have correctly aligned the irrigation channels to the appropriate gradients (to cause gravity flow) in steep slopes and undulating terrain without the aid of any conventional surveying and leveling instruments. Now after advent of irrigation division the phenomenon is different. The tribals have almost depending on the structures built by SMI Division, which are becoming defunct and making their life worse than before. After the evaluation study, the team has come to conclusion in giving the following suggestions for effective utilization of the irrigation schemes.

5.2 It is observed that the SMI Division has spent 72% of the total releases on repairs and balance on new works. Due to new works only 764 Ha of land was brought under irrigation from 1990-91 to 1999-2000. It was noticed that repairs were taken up more than once to each work and sometimes to a tune of 14 times, without any benefits to the beneficiaries. The authorities could not explain the reasons and are simply throwing the blame on the predecessors, which is causing heavy loss to the Government exchequer and also without giving better yields to the stakeholders. The reasons explained by the authorities are not satisfactory. A special technical team may be constituted to go into the details for the cause of effecting repeated number of repairing works to the same scheme.

5.3 Only 121 Ha of land was treated from 1990-91 to 1999-2000.

5.4 At any place of visit, no maximum utilization of check dam/ M.I.Tank/ C.I. Wells was seen. Sometimes, they are becoming archives without any utilization. It was also observed that huge amounts were spent without deriving any positive results.

5.5 The stakeholders who expected high hopes from these structures became dissolute, as they have resorted to their old cropping patterns depending on the rains.

5.6 The tribals are not consulted in the construction of check dam/ MI.Tank and also in selection of motor to be supplied to the well. No participatory management is observed. Because of this, the problems are still pending and there is no solution to these problems. The tribals have to be consulted right from the stages of identification, designing and execution.

5.7 In many places, the contractors under the guise of VTDA are doing the works and the tribals are being used as labourers only and sometimes-outside labour is being utilized to complete the works.

5.8 When the number of M.I. works is more for execution in a particular period, certain monitoring and quality control measures will have to be introduced to avoid malpractices and poor quality of work. Proper field monitoring system including checking of accounts, field enquiry would safeguard the interests of tribals. Quality control work is a desirable thing to maintain quality on works. The quality control staff would take samples of mortar, concrete, earthen cores and get them tested in the laboratories of the nearest Polytechnic/ Engineering College.

5.9 The ayacutdars did not maintain accounts for the structures. In some areas, huge advances are given to joint account holders (Engineers and Representatives of VTDA) and these are classified as miscellaneous P.W. advances. It is objectionable to keep huge amounts under this head for a long time and this would be the case when large number of works is simultaneously taken up for execution. Also it is the personal responsibility of the Engineer in

charge to clear such miscellaneous P.W. advances. Suitable accounting procedures are to be evolved.

5.10 In all M.I. works, ayacut maps are not properly prepared. It is necessary to take grid levels in the ayacuts, mark contours and delineate the natural boundaries of the ayacuts. All the field channels and individual survey numbers have to be clearly marked in the ayacut plans.

5.11 Land development works in the ayacuts (irrigable command area) area also has been neglected, resulting in low water efficiency. Only 121 Ha of land was treated under land development from 1990-91 to 1999-2000. Similarly water management is usually either ignored or simply taken for granted that the beneficiaries themselves should undertake this. A proper water distribution system is usually lacking and a considerable gap is noticed between the designed ayacuts area and actual area irrigated. Maintenance of irrigation structures is a major problem throughout the ITDA particularly in the case of L.I.Schemes and wells and the major reason is lack of beneficiary participation and adequate maintenance and fluctuations in electricity supply.

5.12 There was no training to the ayacutdars in execution, maintenance of accounts, operation and monitoring of MI Works. It is essential that the training programmes have to be conducted for ayacutdars in the operation and maintenance of MI Works. The course contents include technical information on water management and on-farm repairs to structures and pumping systems.

5.13 The crest wall of a check dam should be more than 15 cms above the full supply level of irrigation channel. Scan vent should be provided adjacent to the sluice/ headwork and sill level should be lower than the apron lead. The height of the check dam should be carefully designed. Increase in height will lead to increase in thickness and width of aprons and will cause high flood afflux and out flanking. It is also necessary to have an opening/ sill in the center of the body, which will remove excess sand during flood season that is being silted up.

5.14 The participatory execution of civil works by the VTDA should incorporate diffusion of knowledge, upgrading of maintenance skills and social audit. The stakeholders of the irrigation system should be organized from the planning stage in the irrigation scheme as a subsidiary of the VTDA with focused alteration to post execution, operation and maintenance. The ayacutdars would be motivated to contribute cash and the ITDA have to give matching grant equal to the contributions raised by the ayacutdars. The amount would be kept in the bank and the interest accrued on it would be utilized for maintenance of structure every year. Otherwise, a sizeable amount of 10% from the cost amount may be set apart towards maintenance cost at the time of preparing the estimates for the MI Work.

5.15 It is also suggested that the ayacutdars would be encouraged to nominate one of the farmers/ ayacutdars to irrigate water to all fields impartially and regularly and to attend minor repairs. He would be paid grain depending upon the extent of irrigated land under the structures at the time of harvest.

5.16 The design of irrigation schemes should incorporate cost, implementation, methodology and definition of responsibility of operation and maintenance, command area and crop development and proper sequencing of operations. It is clear that these aspects are not being fully dealt with under the present procedures.

5.17 A gauge post may be fixed for recording the depth of water standing above the sill level of the sluice. Wherever feasible, the levels may be painted and cement plaster graves left on the wall of the sluice. Zero of this gauge will correspond to the sill level of the sluice. This will facilitate the stakeholders to properly manage the tank water for their needs and would also lead to optimum utilization facilitating a second crop whenever feasible.

5.18 Some of the check dams constructed do not have proper arrangement for scan vents (silt ejection). In the case of one check dam, the sluice on left side is far away from the scan vent and there is no way for the silt deposited in front of the head sluice to be scanned out. Such scan vents may be provided immediately adjoining the head sluice. In some cases, the head sluice is

located far away from the scan unit and canal off take is on the up-stream side of check dam. The correct method in such cases would be to provide the sluice in up-stream wing wall and a pipe barrel taken out through the embankment to the down streamside

5.19 The average yield rates of crops in the tribal areas are very low when compared to district average rates due to lack of scientific knowledge on agricultural practices.

5.20 For successful implementation and functioning of MI works, there should be constant monitoring and evaluation of the schemes.

VILLAGE PROFILES

1.Village: Chegondipalli

Mandal	: Polavarm
No.of Households	: 175
Pucca Houses	: 72
Tiled Houses	: 43
Thatched Houses	: 60
Ethnic Groups	: Koya
Crops	: Chillies, tobacco, mango, groundnut, maize, paddy, horse gram.
Institutions	: Upper Primary School (T.W.Dept), Anganwadi Centre, DR. Depot.

This village is having a metal road and a near by B.T. Road which is 2 kms away. The village has 3 bore wells and an open well. The PWS is under construction. There are 10 landless families. In the school, there are110 boys and 70 girls. This village has electricity facility. There is 100 acres of dry, 150 acres of wet and 63 acres of podu land in the village. Main source of irrigation is through check dam and C.I.Wells. Under the check dam, 100 acres is being irrigated benefitting 30 families and under bore wells 30 acres is being irrigated benefiting 12 families. Now the check dam is defunct due to infighting between the two groups of the village. The channel was closed and the water is being let out into the stream. No single drop of water is being utilized from this check dam due to closure of channels.

2. Village: Mulagalagudem

Mandal	: Polavaram
No.of Households	: 75
Pucca houses	: 21
Tiled houses	: 34
Thatched houses	: 20
Ethnic Groups	: Koya and Konda Reddy.
Crops	: Paddy, chillies, tobacco, cashew, mango, goundnut, maize.
Institutions	: Primary School, Anganwadi Centre.

The village is connected by a metal road. The nearby B.T. road is 2 kms away. The village is electrified. There are 25 landless families in the village. In the primary school, there are 30 boys and 21 girls. Under the check dam, 80 acres is being irrigated. The check dam was being repaired on several times and in spite of that, there is leakage from the body wall. A non-tribal contractor took up the repair work. The villagers worked as labourers by receiving Rs.50/- per male and Rs.30/- per female. There are only 11 beneficiaries in the village.

3. Village: Itikalakota

Mandal	: Polavaram
No. of Households	: 175
Pucca houses	: 52
Tiled houses	: 51
Thatched Houses	: 72
Ethnic Groups	: Koya
Crops	; Jowar, bajra, cotton, tobacco, cashew, mango, millets, banana.
Institutions	: DR. Depot, Anganwadi Centre, and High School.

One BT.Road connects this village. In the Tribal Welfare School, the strength is nearly 320, of which boys are 180 and girls are 140. P.W. System is functioning. About 6 irrigated wells were sanctioned to this village. This village has electricity facility. The wells were energized and motors were supplied during 1997-98. Due to supply of low capacity H.P.motors, the scheme became defective and there is need to replace them.

4. Village: Munjuluru

Mandal	: Buttayagudem
No.of Households	: 75
Pucca houses	: 42
Tiled houses	: 33
Thatched houses	:10
Ethnic Groups	: Konda Reddy.
Crops	: Jowar, paddy, cotton, tobacco, cashew, and mango.
Institutions	: DR.Depot, Anganwadi Centre, MPP School.

The village is interior and there is a B.T road upto Puliramudugudem that is 7 kms away from the village. Even though the village is electrified, there is no power supply since two years. The mode of conveyance is only by walk and some times by lorries. In the Primary School, there are 2 teachers and the total strength is 84 out of which 32 are boys and 52 are girls. The village has 2 bore wells for drinking purpose. Nearly 20 families are practicing podu cultivation and are raising jowar, millets and red gram of traditional variety. There are 50 landless families in the village. Altogether the village is having 442.66 acres of dry land and wetland of 17 acres. A check dam was constructed on a perennial stream benefiting only five families. The ITDA has taken up the construction of check dam. The benefits derived out of this check dam are minimal and a diversion channel is necessary to divert the stream water into the fields to get more benefits. Land development has to be taken up. The beneficiaries are cultivating tobacco and cotton under the check dam.

5. Village: Palakunta

Mandal	: Buttayagudem
No. Of Households	: 88
Pucca houses	: 65
Tiled houses	: 13
Thatched houses	:10
Ethnic Groups	: Koya
Crops	: Paddy, tobacco, jowar, small millets, and mango
Institutions	: DR.Depot, Anganwadi Centre, T.W.U.P.School, and Sub-Centre.

The village is connected by a metal road and the BT Road is 3 kms away. One bus is coming to this village occasionally. Electricity exists in the village. The U.P. School is maintained by the T.W. Department and the school's strength is 71, of which 50 are boys and 21 are girls. The village has protected water supply system. Altogether the villagers had dry land of 150 acres, wet of 60 acres, and podu of 30 acres. There are 20 landless families in the village and the existing check dam is supplying water to 60 acres of land, benefiting 40 families. Due to crop holiday, tobacco was not being raised in this village. There is a need to deepen the check dam siltation upto body level and the water is not reaching to the tail end. Recently repairs were taken up to the check dam and canal. The work was grounded by a non-tribal. The accounts were maintained by the supervisor. There were two additional farmers benefited through these repair work.

6. Village: Pedakapavaram

Mandal	: Buttayagudem
No.of Houses	: 70
Pucca houses	: 27
Tiled houses	: 37
Thatched houses	: 6
Ethnic Groups	: Koya
Crops	: Cotton, tobacco, mango, redgram, greengram, and maize.
Institutions	: Primary School, DR. Depot, Anganwadi Centre.

The village is connected by a katcha road and the main road is 2 kms away. The strength of the school is 49 and out of which 29 are boys and 20 are girls. There is one lift irrigation scheme in this village, which is to be electrified even though the Lines were laid. Pumps were also fitted. Nearly 30 acres will be irrigated if it is energized.

7. Village: Lankapalli

Mandal	: Buttayagudem
No.of Households	: 65
Pucca houses	: 28
Tiled houses	: 40
Thatched houses	: 20
Ethnic Groups	: Koya.
Crops	: Jowar, paddy, cotton, tobacco, cashew, and mango
Institutions	: Primary School, Anganwadi Centre.

One katcha road connects this village and the main B.T road is 2 kms away. The strength of the school is 47, of which 29 are boys and 18 are girls. Electricity facility exists in this village. One lift irrigation scheme exists in the village. Due to minor replacement of foot valve, it has become defunct. Only for one year the beneficiaries have enjoyed the benefits. The total extent of land is 12 acres. One bore well exists in the village for drinking purpose, Repairs are to be made to the L.I.Scheme.

8. Village: Marlagudem

Mandal	: Buttayagudem
No.of Households	: 160
Total ST.Households	: 60
Total Non-tribal Households	: 100
Pucca houses	: 74
Tiled houses	: 61
Thatched houses	: 25
Ethnic Groups	: Koya
Crops	: Jowar, bajra, paddy, mango, cashew, and chillies.
Institutions	: School and Anganwadi Centre.

The village is situated by the side of the main B.T. road and has electricity facility. The School strength is 70, of which 40 are boys and 30 are girls. There are 30 landless tribal families in the village. During 1992-93, four families were sanctioned with C.I.Wells. The grounding work was entrusted to a non-tribal. Later two beneficiaries were provided with electric motors. They are successfully cultivating wet crops like paddy, chillies etc.

9. Village: Datlavarigudem

Mandal	: Jeelugumilli
No.of Housseholds	: 92
Pucca houses	: 2
Tiled houses	: 31
Thatched houses	: 59
Ethnic Groups	: Koya
Crops	: Jowar, paddy, cotton, tobacco, cashew, and mango
Institutions	: D.R.Depot, GVVK, and Anganwadi Centre.

The village is 5 kms interior to the B.T. Road and is connected through a kutcha road. There were 35 students in the GVVK School, of which 20 were girls. The village has electricity facility. All the families in the village have lands. Safe drinking water is provided to the village. The source of irrigation to the farmers is through one M.I.Tank and six individual wells. The tank was constructed 25 years back. Repairs were undertaken to the tank during 1992-93. The work was entrusted to a non-tribal contractor. There is heavy seepage of water from the tank. Six individual wells were grounded during 1993-94 but were not provided with electricity.

10. Village: Vankavarigudem

Mandal	: Jeelugumilli
No. of Households	: 160
No.of S.T.Households	: 75
Pucca houses	: 47
Tiled houses	: 91
Thatched houses	: 22
Eethnic Groups	: Koya
Crops	: Mango, jowar, paddy, bajra, blackgram, and bengalgram.
Institutions	: Primary School, DR.Depot (1 km away), Anganwadi Centre, and Sub-Centre.

The village is having metal road and bus is plying through this village regularly. The nearest town to this village is Jeelugumilli, which is 10 kms away. In the primary School, 157 boys and 113 girls are studying. There are 150 illiterate men and 187 illiterate women in this village. There is a check dam built across the local vagu serving for 30 acres of land. Besides this, 6 irrigation wells were also sanctioned and they are raising paddy and tobacco. There is a need to deepen the existing check dam for more water storage capacity. Protected drinking water supply system exists in the village.

11. Village: T. Gangannagudem

Mandal	: Jeelugumilli
No. of Households	: 160
Pucca Houses	: 42
Tiled Houses	: 79
Thatched Houses	: 39
Ethnic Groups	: Koya
Crops	: Paddy, mirchi, groundnut, blackgram, cashew, sugarcane, and tobacco.
Institutions	: Primary School, Anganwadi Centre, DR. Depot (2 kms away).

The village is having a metal road and the BT. Road is 5 kms away. Protected water supply system besides, 4 bore wells and one dug well and electricity facility exist in the village. In the Primary School, the strength of boys is 68 where as the girls is 29. C.I.Wells. There are 30 landless families in the village. There are 2 tanks viz. Rachakunta cheruvu and Kotha cheruvu benefiting 35 families with an extent of 60 acres. 40 C.I.Wells were also grounded in this village, of which 25 are in working condition. The construction of tank was entrusted to non-tribal contractor. Systematic Land Development (SLD) was also taken up in this village. The tribals are growing sugarcane, paddy, chillies, tobacco, groundnut etc and getting good income.

LIST OF ITDA PROJECT STAFF INTERACTED BY THE STUDY TEAM

S.No	Name	Designation
1	Sri. K.Sridhar	Project Officer
2	Sri. VSH. Gopala Rao	E.E, SMI, K.R.Puram
3	Sri. PVSN. Prasada Rao	Dy. E.E
4	Sri. P.Kalidas	A.E.E
5	Sri. M. Bhaskar Rao	A.E.E
6	Sri. RVV.Satyanarayana	A.E.E
7	Sri. K.Satyanarayana	A.E.E
8	Sri.YSS. Prasada Rao	Dy.E.E, Polavaram
9	Sri. Abdul Subhan	A.E.E
10	Sri. DV.Sambasiva Rao	A.E.E
11	Sri. G. Suryanarayana	A.E.E
12	Sri. PVNS. Prakash Rao	Dy.E.E, Jeelugumilli
13	Sri. NM. Subrahmanyam	A.E.E
14	Sri. SVSSS. Kumar	Manager, ITDA
15	Sri. Sun Light	Sr. Assistant
16	Sri. Satyanarayana	D.S.O

ANNEXURES

ANNEXURE-I
SELECTION OF THE VILLAGES

S.No	Mandal	Village	Tribe	Accessibility	Scheme
1	BUTTAYAGUDEM	Munjuluru	Konda Reddy	Inaccessible	Check Dam
		Palakunta	Koya	Accessible	Repairs to Check Dam
		Pedakapavaram	Koya	Less Accessible	L.I.Scheme
		Lankapalli	Koya	Accessible	L.I.Scheme
		Marlagudem	Koya	Accessible	C.I.Wells
2	JEELUGUMILLI	Datlavarigudem	Koya	Less Accessible	Repairs to Tank & C.I.Wells
		Vankavarigudem	Koya	Less Accessible	Check Dam
		T.Gangannaguden	Koya	Inaccessible	New Tank & C.I. Wells
3	POLAVARAM	Mulagalagudem	Koya	Inaccessible	Repairs to Check Dam
		Chegondipalli	Koya	Accessible	Check Dam
		Itikalakota	Koya	Accessible	C.I.Wells

ANNEXURE-II

TRIBE-WISE POPULATION IN WEST GODAVARI DISTRICT

S.No	Tribe	Projected Population (1991)
1	Koya	41403
2	Konda Reddi	5615
3	Nayak	4598
4	Lambada	4467
5	Yerukula	14456
6	Yanadi	5826
7	Goudu	1426
8	Konda Kammara	369
9	Konda Dora	782
	TOTAL	78942

ANNEXURE-III

MANDAL-WISE OPERATIONAL HOLDINGS IN K.R.PURAM ITDA AREA.

S.No	Category	Polavaram		Buttayagudem		Jeelugumilli	
		No.of Holdings	Area (Ha)	No.of Holdings	Area (Ha)	No.of Holdings	Area (Ha)
1	Marginal	1005	1251.34	2638	3403.30	317	422.23
2	Small	579	2050.31	1619	5977.75	291	1082.50
3	Semi-Medium	363	2402.56	1339	8852.92	423	2525.37
4	Medium	91	1250.60	731	9894.40	154	2053.97
5	Large	6	188.16	63	2105.37	15	549.09
	TOTAL	2044	7142.97	6390	30233.74	1200	6633.16
	Average		3.49		4.73		5.43

ANNEXURE:IV

YEAR-WISE ABSTRACT OF IRRIGATION WORKS TAKEN UP BY SMI DIVISION OF K.R.PURAM

S.No	Year	Mandal	No.of Works Completed		Ayacut brought under Irrigation		Families Benefitted		Expenditure (Rs.in Lakhs)		No.of schemes Grounded				Extent brought under Land Levpt (Acres)	
											New Works		Repairs			
			New Works	Repairs	New Works	Repairs	New Works	Repairs	New Works	Repairs	Tribal	Non Tribal	Tribal	Non Tribal	New Works	Repairs
1	1990-2000	JEELUGUMILLI	10	80	1002	8074	232	2313	34.70	131.35	10	0	77	3	170	50
2	1990-2000	POLAVARAM	11	47	496	1635	363	865	30.55	51.06	11	0	47	0	0	0
3	1990-2000	BUTTAYAGUDEM	10	57	310	5911	182	1626	36.49	74.73	10	0	46	11	3	75
4	1990-2000	T.NARSAPURAM	1	9	80	570	32	240	2.03	9.90	1	0	7	2	0	0
		TOTAL	32	193	1888	14190	819	5044	103.77	267.04	32	0	177	16	173	125

ANNEXURE:V

MANDAL-WISE & YEAR-WISE IRRIGATION WORKS TAKEN UP BY SUB-DIVISION POLAVARAM OF S.M.I. DIVISION, K.R.PURAM

S.No	Year	Mandal	No.of Works Completed		Ayacut brought under Irrigation		Families Benefitted		Expenditure (Rs.in Lakhs)		No.of schemes Grounded				Exest brought under Land Devpt(Acres)	
			New Works	Repairs	New Works	Repairs	New Works	Repairs	New Works	Repairs	New Works		Repairs		Nev Works	Repairs
											Tribal	Non Tribal	Tribal	Non Tribal		
1	1990-91	POLAVARAM	2	8	90	150	60	150	1.94	9.85	2	0	8	0	0	0
2	1991-92	POLAVARAM	3	7	120	190	70	110	7.01	6.06	3	0	7	0	0	0
3	1992-93	POLAVARAM	6	1	286	73	233	15	13.45	1.74	6	0	1	0	0	0
4	1993-94	POLAVARAM	0	2	0	100	0	45	0.00	1.45	0	0	2	0	0	0
5	1994-95	POLAVARAM	0	1	0	50	0	25	0.00	1.50	0	0	1	0	0	0
6	1995-96	POLAVARAM	0	3	0	100	0	110	0.00	9.14	0	0	3	0	0	0
7	1996-97	POLAVARAM	0	8	0	102	0	35	0.00	4.16	0	0	8	0	0	0
8	1997-98	POLAVARAM	0	10	0	395	0	240	8.15	4.12	0	0	10	0	0	0
9	1998-99	POLAVARAM	0	2	0	145	0	75	0.00	2.97	0	0	2	0	0	0
10	1999-2000	POLAVARAM	0	5	0	330	0	160	0.00	10.07	0	0	5	0	0	0
		TOTAL	11	47	496	1635	363	965	30.55	51.06	11	0	47	0	0	0

ANNEXURE-VI

MANDAL-WISE & YEAR-WISE IRRIGATION WORKS TAKEN UP BY SUB-DIVISION BUTTAYAGUDEM OF S.M.I. DIVISION, K.R.PURAM

S.No	Year	Mandal	No.of Works Completed		Ayacut brought under Irrigation		Families Benefitted		Expenditure (Rs.in Lakhs)		No.of schemes Grounded				Extent brought under Land Devpt(Acres)	
											New Works		Repairs			
			New Works	Repairs	New Works	Repairs	New Works	Repairs	New Works	Repairs	Tribal	Non Tribal	Tribal	Non Tribal	New Works	Repairs
1	1990-91	BUTTAYAGUDEM	1	5	40	1350	15	132	3.60	4.68	1	0	5	0	3	0
2	1991-92	BUTTAYAGUDEM	3	4	212	176	88	45	8.95	3.95	3	0	4	0	0	0
3	1992-93	BUTTAYAGUDEM	1	1	35	75	12	12	3.28	1.85	1	0	1	0	0	0
4	1993-94	BUTTAYAGUDEM	0	14	0	1671	0	397	0.00	13.89	0	0	3	11	0	75
5	1994-95	BUTTAYAGUDEM	1	4	5	520	25	120	1.22	7.03	1	0	4	0	0	0
6	1995-96	BUTTAYAGUDEM	1	4	18	355	8	130	3.43	2.77	1	0	4	0	0	0
7	1996-97	BUTTAYAGUDEM	0	3	0	274	0	105	0.00	1.32	0	0	3	0	0	0
8	1997-98	BUTTAYAGUDEM	0	14	0	1336	0	472	0.00	24.61	0	0	14	0	0	0
9	1998-99	BUTTAYAGUDEM	3	6	0	154	44	73	16.01	12.74	3	0	6	0	0	0
10	1999-2000	BUTTAYAGUDEM	0	2	0	0	0	40	0.00	1.89	0	0	2	0	0	0
		TOTAL	10	57	310	5911	192	1526	36.49	74.73	10	0	46	11	3	75

S.No	Year	Mandal	No.of Wcs Complet		Ayacut brought under Irrigation		Families Benefitted		Expenditure (Rs.in Lakhs)		No.of schemes Grounded				Extentbrought under LandDevpt (Acres)	
											New Works		Repairs			
			New Works	Rairs	New Works	Repairs	New Works	Repairs	New Works	Repairs	Tribal	Non Tribal	Tribal	Non Tribal	New Works	Repairs
1	1990-91	JEELUGUMILLI	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	1991-92	JEELUGUMILLI	3	5	325	565	93	258	7.29	5.79	3	0	5	0	170	50
3	1992-93	JEELUGUMILLI	3	1	269	0	54	0	11.02	1.39	3	0	1	0	0	0
4	1993-94	JEELUGUMILLI	0	3	0	725	0	145	0	5.27	0	0	0	3	0	0
5	1994-95	JEELUGUMILLI	0	4	0	247	0	98	0	4.08	0	0	4	0	0	0
6	1995-96	JEELUGUMILLI	0	3	0	515	0	254	0	7.15	0	0	9	0	0	0
7	1996-97	JEELUGUMILLI	1	1	70	1681	47	603	4.95	7.27	1	0	11	0	0	0
8	1997-98	JEELUGUMILLI	2	7	298	1152	112	600	8.63	50.05	2	0	27	0	0	0
9	1998-99	JEELUGUMILLI	1	8	40	1109	26	300	2.81	44.6	1	0	18	0	0	0
10	1999-2000	JEELUGUMILLI	0	2	0	80	0	55	0	5.75	0	0	2	0	0	0
		TOTAL	10	30	1002	6074	332	2313	34.70	131.35	10	0	77	3	170	50

ANNEXURE-VIII

MANDAL-WISE & YEAR-WISE IRRIGATION WORKS TAKEN UP BY SUB-DIVISION JEELUGUMILLI OF S.M.I. DIVISION, K.R.PURAM IN T.NARSAPURAM MANDAL

S.No	Year	Mandal	No.of Works Completed		Ayacut brought under Irrigation		Families Benefitted		Expenditure (Rs.in Lakhs)		No.of schemes Grounded				Extent brought underLand Devpt (Acres)	
											New Works		Repairs			
			New Works	Repairs	New Works	Repairs	New Works	Repairs	New Works	Repairs	Tribal	Non Tribal	Tribal	Non Tribal	New Works	Repairs
1	1990-91	T.NARSAPURAM	1	3	80	250	32	140	2.03	2.68	1	0	3	0	0	0
2	1991-92	T.NARSAPURAM	0	4	0	210	0	60	0.00	3.74	0	0	4	0	0	0
3	1992-93	T.NARSAPURAM	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0
4	1993-94	T.NARSAPURAM	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0
5	1994-95	T.NARSAPURAM	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0
6	1995-96	T.NARSAPURAM	0	2	0	110	0	40	0.00	3.47	0	0	0	2	0	0
7	1996-97	T.NARSAPURAM	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0
8	1997-98	T.NARSAPURAM	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0
9	1998-99	T.NARSAPURAM	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0
10	1999-2000	T.NARSAPURAM	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0
		TOTAL	1	9	80	570	32	240	2.03	9.90	1	0	7	2	0	0

S.No	Mandal	Year	No.of Villages	No.of Families Benefitted	Ayacut brought under Irrigation(Acres)	Year of Completion of Scheme	Total cost of the Schemes	Year of Electrificati on	Remarks
1	BUTTAYAGUDEM	1990-91	10	28	138.82	1990-91(15) 1995-96(12) 1998-99(1)	651200	1995-96(9) 1998-99(8) 1999-2000(7)	
		1991-92	1	7	26.22		224000	1999-2000(7)	
		1992-93	21	59	262.70		1890800	1998-99(5) 1999-2000(45)	
		1993-94	25	63	442.77	1993-94(8) 1994-95(20)	2296800	1997-98(45) 1998-99(3) 1999-2000(10)	
		1999-2000	9	17	71.95		552500		
2	JEELUGUMILLI	1988-89	4	25	147.00	1990-91(25)	742300	1999-2000(20)	ITDA Wells
		1989-90	2	2	12.00	1990-91(2)	38800	1999-2000(2)	ITDA Wells
		1990-91	3	7	42.00	1991-92(7)	135800		ITDA Wells
		1991-92	6	22	125.00	1992-93(22)	678000	1997-98(4) 1999-2000(4)	ITDA Wells
		1992-93	9	24	142.00	1993-94(24)	640100	1999-2000(10)	ITDA Wells
		1993-94	14	51	291.00	1994-95(51)	1782000	1997-98(5) 1999-2000(14)	ITDA Wells
3	POLAVARAM	1991-92	2	14	81.37	1991-92(14)	289127	1994-95(7)	Energised Bore wells not functioning
								98-99(4)	Only one Village's We has been Energised.

ANNEXURE:X
PARTICIPATION OF THE STAKE HOLDERS

S.No	Village	Mandal	Scheme	Motivation Meetings Conducted	Site selected in consultation with Villagers	Training	Entrustment of work to VTDA/WISA, Non-Tribal Contractor	Condition of the Work	Quality of Work
1	Munjuluru	Buttayagudem	Check Dam	Yes	Yes	No	VTDA	Partially Working	Good
2	Palakunta	Buttayagudem	Check Dam	No	No	No	Non-Tribal	Working	Satisfactory
3	Pedakapavaram	Buttayagudem	Lift Irrigation	Yes	Yes	No	Non-Tribal	Not Working	Satisfactory
4	Lankapally	Buttayagudem	Lift Irrigation	Yes	Yes	No	Non-Tribal	Not Working	Satisfactory
5	Marlagudem	Buttayagudem	C.I.Well	Yes	Yes	No	Tribal	Working	Good
6	Datlavarigudem	Jeelugumilli	Tank	No	Yes	No	Non-Tribal	Partially Working	Not Good
7	Vankavarigudem	Jeelugumilli	Check Dam	No	No	No	Non-Tribal	Working	Good
8	T.Gangannagudem	Jeelugumilli	Tank	Yes	Yes	No	Non-Tribal	Partially Working	Satisfactory
9	Mulagalagudem	Polavaram	Check Dam	No	Yes	No	Non-Tribal	Not Working	Not Good
10	Chegondipalli	Polavaram	Check Dam	No	Yes	No	Non-Tribal	Not Working	Not Good
11	Itikalakota	Polavaram	C.I.Well	No	Yes	No	Non-Tribal	Not Working	Not Good
				Yes=5 (45.00) No=6 (55.00)	Yes=9 (82.00) No=2 (18.00)	No=11 (100.00)	Tribal=2 (18.00) N.T=9 (82.00)	Working=3 (27.29) Partly=3 (27.29) Not=5 (45.42)	Good=3 (27.20) Satis=4 (36.40) Not Good=4 (36.40)

ANNEXURE-XI

EXTENT OF LAND CONVERTED INTO WET

S.No	Mandal	Village	No.of Beneficiaries	Prior to Irrgiation			After Irrigation			Total Dry land converted into Wet
				Dry	Wet	Total	Dry	Wet	Total	
1	Buttayagudem	Munjuluru	3	14.5	0	14.5	9	5.5	14.5	5.5
		Palakunta	3	27	0	27	20	7	27	7
2	Jeelugumilli	Datlavarigudem	3	14.5	0	14.5	13	1.5	14.5	1.5
		Vankavarigudem	2	7	3	10	7	3	10	0
		T.Gangannagudem	5	17	0.2	17.2	8	9.2	17.2	9
3	Polavaram	Mulagalgudem	3	4.5	2	6.5	3	3.5	6.5	1.5
		Chegondipalli	1	4	1.5	5.5	4	1.5	5.5	0
		TOTAL	**20**	**88.5**	**6.7**	**95.2**	**64**	**31.2**	**95.2**	**24.5**

ANNEXURE-XII

ADOPTION OF MODERN AGRICULTURAL PRACTICES

S.No	Mandal	Village	No. of Beneficiaries	VTDA Existing	Extent of Land Devpt.	Families Using HYV Seeds	Families Using Fertilizers& Pesticides	Families getting guidance in Agriculture	Suggestions for better management of Structures
1	Buttayagudem	1. Munjuluru	3	Yes	0	3	3	1	1.Land development should be taken up.2. Canals should be extended for irrigating more land.
		2. Palakunta	3	No	0	3	3	3	1. Maintenance charges for canals should be arranged. 2. Repairing of the canals
2	Jeelugumilli	1. Datlavarigudem	3	Yes	0	3	3	3	1. Blocking the hole of the bank when water is maximum. 2. Requires an extra borewell with electrical motor in the tank.
		2. Vankavarigudem	2	yes	0	2	2	0	
		3. T.Gangannagudem	5	Yes	3	5	3	0	1. Bank height should be increased.
3	Polavaram	1. Mulagalgudem	3	No	0	3	3	0	1. Management of the checkdam should be improved
		2. Chegondipalli	1	Yes	0	1	1	1	
		TOTAL	**20**		**3**	**20**	**18**	**8**	

ANNEXURE-XIII.
EXTENT OF IMPROVEMENT IN THE CROP YIELDS

S.No	Mandal	Village	No. of Beneficiaries	Prior to Irrigation				After Irrigation				Improvement in Income
				Dry(Kgs)	Income (In Rs.)	Wet(Kgs)	Income	Dry(Kgs)	Income	Wet(Kgs)	Income	
1	Buttayagudem	1. Munjuluru	3	Jowar Sama Paddy Cotton Ragi	8430	Nil	0	Ragi Paddy cotton	28835	Paddy Tobacco	61685	82041
		2. Palakurta	3	Tobacco Horsegram Castor Janumu	68248	Nil	0	Tobacco Cashew	196520	Paddy	51000	179272
2	Jeelugumilli	1. Dattavarigudem	3	Mango Jowar Cotton Paddy	9000	Nil	0	Mango Cotton	8000	Paddy	7800	6800
		2. Vankavarigudem	2	Cashew	2000	Paddy	12000	Cashew	2000	Paddy	12000	0
		3. T.Gangannagudem	5	Tobacco Jowar Ragi Bobbarlu Cashew	12383	Paddy	3000	Tobacco Jowar Bobbarlu Cashew	9758	Paddy Tobacco	18900	13275
3	Polavaram	1. Mulagalgudem	3	Paddy Blackgram	9900	Paddy	9000	Paddy Blackgram	6600	Paddy	13800	1500
		2. Chegondipalli	1	Paddy Blackgram Groundnut	15000	Paddy	4500	Paddy Blackgram Groundnut	15000	Paddy	4500	0

ANNEXURE-XIV

CHANGES IN LIVING CONDITIONS

S.No	Mandal	Village	Beneficiary	Intake of Food		Consumption of Vegetables		Consumption of Meat		Assets Purchased After Irrigation
				Prior to Irrigation	After Irrigation	Prior to Irrigation	After Irrigation	Prior to irrigation	After Irrigation	
1	BUTTAYAGUDEM	Munjuluru	1	Gruel	Rice	Rare	Weekly Once	Rare	Weekly Twice	
			2	Gruel	Gruel&Rice	Once in 2 weeks	Weekly Once	Once in 30 days & Egg once in 7 days	Weekly Twice	
			3	Gruel	Gruel&Rice	Bamboo shoots	Twice a week			Radio
		Palakunta	1	Gruel	Rice	Once in 2 weeks	Twice a week	Twice a week	Thrice a week	2 acres of land
			2	Gruel & Sama	Rice					
			3	Rice	Rice	Thrice a week	Twice a week	Twice a week	Thrice a week	
2	JEELUGUMILLI	Datlavarigudem	1	Rice	Rice	Thrice a week	Twice a week	Twice a week	Thrice a week	2 Chairs, 1 Table, 1 Cot
			2							
			3	Gruel	Rice	Once a week	Once a week	Twice a week	Thrice a week	
		Vankavarigudem	1	Rice	Rice	Once a week	Once a week	Twice a week	Thrice a week	
			2	Rice	Rice	Once a week	Once a week	Twice a week	Thrice a week	
		T.Gangannagudem	1	Rice	Rice	Once a week	Once a week	Twice a week	Thrice a week	T.V
			2	Rice	Rice	Once a week	Once a week	Twice a week	Thrice a week	
			3	Gruel	Rice	Rare	Rare	Rare	Rare	
			4	Gruel	Rice	Once a week	Once a week	Twice a week	Thrice a week	
3	POLAVARAM	Mulagalagudem	1	Gruel	Rice&Gruel	Rare	Rare	Rare	Rare	
			2	Gruel	Rice	Rare	Rare	Rare	Rare	
			3	Rice	Rice	Rare	Rare	Rare	Rare	
		Chegondipalli	1	Rice	Rice	Rare	Rare	Rare	Rare	

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