CHAPTER II

RURAL WATER SUPPLY IN ANDHRA PRADESH
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2.1: ANDHRA PRADESH STATE:

Andhra Pradesh is situated in a tropical region between 13° N to 20° N and 77° E to 85° E. It is bounded on the east by the Bay of Bengal, on the north-east by Orissa and Madhya Pradesh, on the north by Maharashtra, on the west by Mysore and on the south by Tamil Nadu.¹

"Andhra Pradesh has an area of about 2.77 lakh Kms. with a population of about 5.35 crores. It consists of 23 districts, 225 towns and cities and 63,801 inhabited villages and other hamlets. Thus, it is the fifth largest state and the fourth most populous state in India. The density of population of Andhra Pradesh is 157 persons per Sq. Km. as compared to 182 persons per Sq. Km. of India."² Andhra Pradesh can be divided into 3 geographical regions.

1. THE COASTAL ANDHRA REGION:

It consists of Srikakulam, Vijayanagaram, Visakha, East Godavary, West Godavary, Krishna, Guntur, Prakasam and Nellore districts. It accounts for 44.47 percent of the total population with only 31.45 percent of the area of the State. Its density of population is 223 persons per Sq. Km.
2. Telangana Region:

It includes Mahaboobnagar, Hyderabad, Medak, Nizamabad, Adilabad, Karimnagar, Warangal, Khammam, Rangareddi and Nalgonda districts. It accounts for 36.84 per cent of the State's population and its geographical area is 41.8 per cent of the State. Its density of population is 137 persons per Sq. Km.

3. Rayalaseema Region:

It consists of four districts namely Anantapur, Cuddapah, Kurnool and Chittoor. It accounts for 19.19 per cent of the State's population and its geographical area is about 26.76 per cent of the total area of the State. Its density of population is 137 persons per Sq. Km.

RAINFALL:

On an average, Andhra Pradesh receives an annual rainfall of 90 Cm. But it is unevenly distributed in time and place. "The rainfall in Andhra Pradesh varies from 50 Cm. in Anantapur to 100 Cm. in Srikakulam district". 3

GROUND WATER:

The total Annual groundwater potential is 3.3 million hectre meters. But the present exploitation is only about one third or 1.05 million hectre metres. Hence the
total ground water potential requires to be fully exploited.

**RIVERS**

The Godavari and the Krishna are the most popular and important rivers in the State. Further 38 medium and minor rivers such as the Gundlakamma, the Maneru, the Nagavali, the Pennar, the Tungabhadra, the Vamsadhara etc., are also available in the State. All these rivers are rainfed and during the summer they get dried up to a large extent.

The rainfall, the ground water and the rivers are not evenly distributed among all regions and all districts on the one hand and they are not fully exploited on the other. Consequently, most of the areas in the State have been experiencing acute scarcity of fresh water for domestic, irrigation and other purposes. Nearly one third of the State is drought prone.

Most of the areas have been experiencing serious shortage of fresh water supply in Andhra Pradesh. Before independence, the alien rulers showed no concern to the provision of "safe water supply". However, one should not lose sight of the following facts that existed before the dawn of planning era in Andhra Pradesh in the rural areas.
2.2: RURAL WATER SUPPLY SCHEMES EXECUTED DURING THE FIVE YEAR PLANS:

In 1937-38 itself "The Rural Water Supply Scheme" was formulated by the Government and thereby efforts were put-forth to provide an organised water supply scheme. Further, a ten year programme was also formulated to construct new wells, bore wells, infiltration galleries etc. The following were the important contents of the scheme:

1. Provision of new draw-wells;
2. Conversion of step-wells into draw-wells and reconstruction of old wells;
3. Construction of new-wells;
4. Deepening of existing wells;
5. Installation of pumps or infiltration of galleries with wells or reservoirs.
6. Composite or multi-village schemes pertaining to all or any one of the above items.

This was further followed by a five year Rural water supply plan in 1947-48. It provided 5 out of the 393 Panchayats with protected water supply. All these efforts failed to provide drinking water supply facilities in the country, particularly in rural areas. Hence, concerted efforts were made to provide water supply in the villages
by the independent Indian Government and schemes were executed under five year plans.

First Five Year Plan (1951-56):

The First Five Year Plan of Andhra Pradesh introduced "Water Supply Programmes" in the rural areas. Consequently 20 villages were provided with water supply. Further, 7,145 wells were estimated to be sunk during this plan. Thus, it made only a modest beginning with regard to the provision of supply of safe water.

Second Five Year Plan (1956-61):

In the Second Plan implemented between 1956 and 1961 efforts were put-forth to continue the schemes initiated during the First Five Year Plan. On the whole, the plan envisaged the provision of drinking water to about 786 villages with an expenditure of ₹1.18 crores.

Third Five Year Plan (1961-66):

As a matter of fact, the Third Five Year Plan showed greater attention towards water supply schemes than the previous plans. A survey was conducted in all villages of the State during this plan. The survey revealed that 31,873 villages and hamlets were experiencing acute water scarcity. A further survey revealed that if one well was
considered to be sufficient to meet the needs of 100 persons per day, 84 per cent of villages were found to be "No Source Villages". Thus, only 16 per cent of the villages were considered to have some what satisfactory sources of water supply. On the whole, 54,145 villages were identified as villages with inadequate water supply. An amount of Rs.6.55 crores was envisaged towards the outlay for the purpose of providing water supply in some of those villages.

Fourth Five Year Plan (1969-74):

The Fourth Five Year Plan which was implemented between 1969-74 has opened a new chapter in the history of "Rural Water Supply". An amount of Rs.503.81 lakhs was proposed for it, and for protected water supply schemes Rs.250 lakhs, was proposed in the Fourth Five Year Plan. With this amount it was proposed to provide drinking water to 10,500 villages and hamlets and complete 200 protected water supply schemes. It was also proposed to make full use of institutional finances especially from the Life Insurance Corporation of India for protected water supply schemes. In addition, rigs supplied by U.N.I.C.E.F. were proposed to be utilised in the drought areas.

Further, "The Accelerated Rural Water Supply Programme" a centrally sponsored scheme was launched in 1972-73 to deal with difficult villages in this plan period.
Thus, by March 1973, nearly 4,178 bore wells were sunk and 42.88 lakh people were benefitted by such bore wells as well as open wells in 8,575 villages. On the whole, 31,996 villages and hamlets were provided with water with an envisaged outlay of Rs.7.54 crores during this plan.  

Fifth Five Year Plan (1974-79):  

The Fifth Five Year Plan, which was implemented between 1974 and 1979 exhibited much keener insight into the provision of drinking water supply. "The need to provide drinking water facilities on a priority basis to the rural areas suffering from scarcity, health hazards or special problems such as iron and flourides etc" has been stressed in the Fifth Five Year Plan.  

At the beginning of the Fifth Five Year Plan 21,742 habitations comprising 5,280 difficult, and problem villages, 6,156 Harijan Wadas, 1,500 Harijan Colonies, and 8,806 other villages and hamlets in soft areas were found to be without drinking water facilities. It was estimated that in order to provide drinking water for all these remaining habitations, it would be necessary to drill 24,550 bore wells of 4" diameter, 5,280 bore wells of 6" diameter and 4,000 simple wells in soft areas. The total cost of this programme was estimated at Rs.56.18 crores and the State Government proposed
that this outlay should be provided by the Centre under "The Minimum Needs Programme". At last the Planning Commission allocated only \( Rs.25 \) crores for the rural water supply schemes. On the whole the Fifth Five Year Plan covered 4,063 villages (out of 12,269) and provided water supply with an outlay of \( Rs.25 \) crores.

**Sixth Five Year Plan (1980-85):**

The promising and congenial atmosphere created by the previous plans with regard to rural water supply was sustained during the Sixth Plan period. Table No.2.2.1. shows the revised proposals for rural water supply for the Sixth Five Year Plan period. It was proposed to cover all uncovered problem villages during the Sixth Five Year Plan. It had been proposed to cover all 8,206 uncovered problem villages with an expenditure of \( Rs.168.40 \) crores during this plan.

However, the revised estimates were different from the proposed estimates. "Against the estimated cost of the above schemes, the amount proposed in the Sixth Five Year Plan period was \( Rs.123.00 \) crores, including the L.I.C. component expected during the VI plan period." \(^{10}\)

The Sixth Plan was supposed to cover 7,019 problem villages. By the end of the plan, the objective was realised...
TABLE NO.2.2.1.
REVISED PROPOSALS FOR PWS SECTOR FOR VI PLAN PERIOD (1980-85)

(SPILL OVER AND NEW SCHEMES)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Type of scheme proposed</th>
<th>No. of villages to be covered</th>
<th>Population to be covered by 1985 (in thousands)</th>
<th>Estimated cost of schemes (Rs. in lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>P.W.S. SCHEMES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Spillover schemes (committed)</td>
<td>1,383</td>
<td>4,562</td>
<td>3,079.00</td>
<td></td>
</tr>
<tr>
<td>b) New schemes</td>
<td>467</td>
<td>3,174</td>
<td>6,348.00</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,850</td>
<td>7,736</td>
<td>9,427.00</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>SPOT SERVICES (Bore wells fitted with hand pumps or open wells)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Spillover schemes (Nos.807)</td>
<td>368</td>
<td>141</td>
<td>57.00</td>
<td></td>
</tr>
<tr>
<td>b) New schemes (Nos.15,193)</td>
<td>5,988</td>
<td>3,818</td>
<td>2,016.00</td>
<td></td>
</tr>
<tr>
<td>Total (Nos.16,000)</td>
<td>6,356</td>
<td>3,959</td>
<td>2,073.00</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>8,206</td>
<td>11,659</td>
<td>11,500.00</td>
<td></td>
</tr>
</tbody>
</table>

to a large extent. "During the Sixth Plan an amount of Rs.9,004.06 lakhs was released to the Zillaparishads under the State Plan to cover 7,019 problem villages along with an amount of Rs.3,322.95 lakhs received from the Government of India under the Centrally sponsored Accelerated Rural Water Supply Programme to cover 1,187 problem villages. Thus, by the end of the Sixth Plan, almost all identified problem villages were tackled and drinking water was made available either fully or partially with an expenditure of Rs.119.60 crores. Further, an expenditure of Rs.3.67 crores was also incurred towards maintenance of sanitation programmes in the rural areas of the State."

Seventh Five Year Plan (1985-90):

The draft of the Seventh Five Year Plan speaks about the preparation of Master Plan pertaining to the supply of safe drinking water to all people in the rural areas. According to this plan "All these villages (identified problem villages - 12,269) are to be covered under Rural Water Supply". The plan claims that the P.W.S. schemes should be restricted to areas identified as Health hazards. Besides, there are also problematic villages in drought prone areas where drinking water is a serious problem.

The Seventh Plan envisages to provide safe drinking water facility to all these villages. The plan claims
that the problems of the problem villages have been solved to a large extent. The plan has envisaged to cover 14,400 villages with a population of 260 lakhs. The estimated outlay for the same is Rs. 200 crores. However, the Seventh Five Year Plan achievements reveal the fact that there is a short fall of 30 per cent in respect of problem villages. Further, it should be noted that there is under-achievement from the point of view of population also. Much more needs to be done during the Eighth Five Year Plan to provide the basic need i.e. "safe water" to all people in the rural as well as urban areas.

Table No. 2.2.2 summarises the details relating to the outlays sanctioned and villages covered with water supply facilities during the Five Year Plans in Andhra Pradesh. It is noted that village water supply was not given priority and lower amounts were allotted to rural water supply works till the end of Fourth Five Year Plan and of course attempts were made to provide water supply in villages and to sink bore wells. More than 0.55 lakh villages were covered during the Third Five Year Plan.

Rural Water Supply Programmes were implemented on a large scale with an outlay of Rs. 119.60 crores and all identified problem villages were proposed to be covered
### TABLE NO. 2.2.2.

PROGRAMMES AND OUTLAYS UNDER RURAL WATER SUPPLY DURING THE 
FIVE YEAR PLANS IN ANDHRA PRADESH

<table>
<thead>
<tr>
<th>Plan</th>
<th>Proposed outlay Rs. in crores</th>
<th>Villages covered/ Bore wells drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Plan</td>
<td>N.A.</td>
<td>Villages : 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Borewells : 7,745</td>
</tr>
<tr>
<td>Second Plan</td>
<td>1.18</td>
<td>Villages : 786</td>
</tr>
<tr>
<td>Third Plan</td>
<td>6.55</td>
<td>Villages identified: 54,145</td>
</tr>
<tr>
<td>Fourth Plan</td>
<td>7.54</td>
<td>Villages : 31,996</td>
</tr>
<tr>
<td>Fifth Plan</td>
<td>25.00</td>
<td>Villages : 4,063</td>
</tr>
<tr>
<td>Sixth Plan</td>
<td>119.60</td>
<td>Villages : All villages fully or partially</td>
</tr>
<tr>
<td>Seventh Plan</td>
<td>200.00</td>
<td>Villages : 14,400</td>
</tr>
</tbody>
</table>

Source: Finance and Planning Department, Government of Andhra Pradesh, Five Year Plan documents of Andhra Pradesh.
during the Sixth Plan. The outlays sanctioned for providing water supply in rural areas during the five year plans of Andhra Pradesh are shown in the following diagram.

However, the drought and famine conditions in several parts of the State remained problematic and hence all those were proposed to be covered during the Seventh Five Year Plan with an outlay of Rs.200 crores.
OUTLAYS ON RURAL WATER SCHEMES IN ANDHRA PRADESH

FIVE YEAR PLANS

FIVE YEAR PLANS

Y

RUPEES IN CRORES

X

I Plan

II Plan

III Plan

IV Plan

V Plan

VI Plan

VII Plan

N.A.

1.18

6.55

7.54

25.0

119.6

200.0

23(a)
REFERENCES


2. Ibid.


4. Finance and Planning Department, The First Five Year Plan, Government of Andhra Pradesh, Hyderabad, p.p.120 and 121.


8. Ibid.


10. Finance and Planning Department, Government of Andhra Pradesh, Sixth Five Year Plan, Hyderabad.