CHAPTER SIX

Problem Areas
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1. Drinking Water Supply Area.
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   1.3. Non-implementation of the scheme.
   1.4. Poor maintenance of the scheme.
   1.5. Lack of people's participation.
   1.6. Inadequate infrastructure.
   1.7. Lack of comprehensive policy.
   1.8. Insufficient budget.
   1.9. Other problems.

2. Irrigation Area.
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   2.3. Mechanical problems.
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References
Human existence on the earth is dictated by three natural sources: air, water, and food, which are made available initially free of cost as gifts. Human survival ends within three minutes without air, within three days without water, and within thirty days without food. Over the centuries, however, food became scarce, consequently human efforts were needed to produce it and thus followed a system of marketable products. In course of time water too, though made available by nature, is becoming scarce, insufficient and unsafe for human consumption, but not yet competing with food. Fortunately, air has still remained as a gift of nature. One can easily observe the relationship between the duration of survival without food, water, and air and degree of human efforts to consume them. The crux of the point is that humanity has to make some efforts, either collectively or individually, to avail the basic essential natural gifts for their own survival and welfare. Collective production assumed the nature of governmental activity in terms of bearing the major responsibility of the survival and welfare of their subjects in particular and the community in general through proper utilisation of the three natural gifts. As food had become a priced and marketable produce, potable water has neither remained as nature's gifts nor a purely private product, but as a quasi-public good.

Water becomes a killer when it becomes a carrier or cradle of water-borne diseases. The children are more affected than adults because they have little resistance.
capacity. The implication of this situation for child health is clear by the following date. An estimated 8.7 percent of the deaths in the 0-1 age group, 19.1 percent of the deaths between the years 1 and 4, and 15.2 percent of the deaths between 5 and 15 are due to one waterborne disease alone—diarrhea.

Different types of diseases are transmitted through water. These are diseases caused by an infective agent. Such as hepatitis, dysentery and typhoid; diseases due to the presence of an aquatic host like guinea worm and tape worm; illnesses from toxic or inert substances like lead arsenic; fluorides and nitrates in the water; those like malaria, yellow fever and dengue caused by the presence of water in the immediate environment of an insect vector; and lastly diseases caused by water being the reason for interhuman contact, trachoma, flu and tuberculosis for example. Thus, the facility of adequate and potable drinking water supply to all towns and villages is necessary for human health. During the British rule the situation of drinking water supply was not satisfactory. But even after the 46 years of independence the situation is as serious as it was prior to independence. According to 1981 census of the total 566878 villages about 2,31,100 (40.75 percent) villages are problem villages from the point of view of drinking water facility. The situation of Uttar Pradesh which accounts for 14.8 percent of the total scarcity villages in India is not different. Neither during the British regime nor just after
independence, the planners and the policy makers gave proper attention towards drinking water supply and it was only after 1960 when the policy makers and planners began to realise the gravity of the situation. It got further impetus following the U.N. water conference in 1977 and finally by the proclamation of the International Drinking Water Supply and Sanitation Decade of 1981-90, by the United Nations General Assembly in 1980. India, being a Signatory to all these Conferences also adopted the resolution and fixed a goal of 100% Coverage in terms of rural water supply by 1990.

It is true that the international forums like United Nations recognised the pressing need for clean and potable drinking water in underdeveloped countries, but it does not mean that the underdeveloped countries should follow the rhetoric as it is without creating capabilities and infrastructure network to achieve the objectives of the programme. In India particularly in Uttar Pradesh, it seems that the government wants to take up all the scarcity villages under the drinking water supply schemes, irrespective of the fact, whether the people get drinking water on a permanent basis or not. There are numerous evaluation studies which point out to the fact that a large number of small piped water supply and handpump schemes have already become non-functional because of defective design, faulty installation of handpumps and pipeline poor maintenance and lack of public participation etc. The commission on district level administration (1986) rightly
observes that many of the old systems have become inefficient and need repairs/replacement/augmentation/extension. Many of piped water schemes in hill regions have been non-functional for few years. One of the distressing features of present administration of the scheme is the existence of multiplicity of the agencies or committees with no interagency coordination indeed. In this regard the administration of drinking water supply in UP is no exception. A number of organisations, departments viz. Jal Nigam, Jal Sansthan, Gram Panchayat and Rural Development Department are involved in the planning, implementation and maintenance of drinking water programme and at no stage, these organisations meet together and chalk out the strategy of the programme in an integrated manner. But in Aligarh the Jal Nigam is only responsible to provide drinking water facilities to the rural masses. The problems of both the areas, drinking water supply as well as irrigation have been discussed in the following paragraphs.

The reasons for the irregular and intermittent drinking water supply in Aligarh and non fulfillment of the expectations of the schemes are many which can primarily be attributed to:-

1. Drinking Water Supply Area:

1.1. **Ineffective Planning**: One of the most serious problem of drinking water schemes is ineffective planning.
It is fact that for better running of the scheme a better planning is needed. There are so many agencies or committee with no inter-agency co-ordination indeed. In this regard the Aligarh Jal Nigam is no exception. As already pointed out, a number of agencies viz. Jal Nigam, Jal Sansthan, Gram Panchayats and Rural Development Department are involved in the planning of the scheme and at no stage, these agencies meet together and chalk out the strategy of the programme in an integrated manner.

1.2. Poor Designing of the Scheme:- It is an important problem. The Jal Nigam Aligarh is no less responsible for poor designing of the schemes. The natural water resources like spring or revalets tend to dry up in summer or the discharge is reduced considerable. Thus schemes designed on the basis of the discharge during seasons other than summer tend to become non-functional. At the time of designing the drinking water schemes and search for a perennial sources are not made and factors like minimum water requirements of the people and population growth etc. are not taken care of at the time of designing the schemes.

1.3. Non-Implementation of the Scheme:- It is also one of the serious problems of Aligarh Jal Nigam. For the better implementation of the scheme, the better planning is needed. But there is also lack of better planning in the Aligarh Jal Nigam. The target which is assigned by the planners and policy makers is usually not in accordance with the existing condition of the district and the available infrastructure.
1.4. **Poor Maintenance of the Scheme:** It is also being experienced that poor maintenance of the scheme is equally responsible for the ineffectiveness of the scheme. Aligarh Jal Nigam is also facing such a very problem. As a matter of fact, government had neither a comprehensive policy nor sufficient budget for maintenance of the scheme till very recently. Budget allocation for maintenance is being funded from non-plan budget. In the past, Gram Sabhas were actively involved in the execution and maintenance of the schemes. But now there are no local efforts to maintain them as people have come to depend on government for their upkeep.

1.5. **Lack of People's Participation:** The willing participation of the people is necessary for the success of any scheme. Without people's cooperation no scheme however nicely planned and designed, can be a success. This is equally valid in the case of Aligarh Jal Nigam.

1.6. **Inadequate Infrastructure:** Infrastructure plays a pivotal role in the economic development of any region. In the absence of adequate infrastructure no region can prosper. The importance of infrastructure in case of Aligarh Jal Nigam also cannot be exaggerated. It is one of the responsible factors for the unsatisfactory performance of the scheme.

1.7. **Lack of Comprehensive Policy:** It is also found that there is no comprehensive policy for rendering the
scheme non-functional. This explanation can not be doubted as the government had neither a comprehensive policy nor sufficient budget for maintenance of the scheme till very recently.

As a matter of fact budget allocation for maintenance was being funded from non-plan budget. But recently the government of India has agreed to provide ten percent of the plan budget of water supplies for the maintenance work which is also not sufficient for the purpose.

1.8. Insufficient Budget:- Another important problem of the Aligarh Jal Nigam is insufficient budget or lack of finance. It is fact that without finance or sufficient budget smooth running of the scheme is not possible. It is a backbone of any business, programme or scheme. In this regard government has no clear cut policy. There is no plan budget for the maintenance of the scheme. Although government is providing plan budget for water supply schemes but it is also insufficient for the said purpose. It is the biggest hurdle in the way of running the scheme more effectively.

1.9. Other Problems:- In addition to the above referred problems of the drinking water supply scheme there are some other problems which have been mentioned below:- Another distressing feature of present administration is the existence of multiplicity of agencies or committees with no inter-agency coordination indeed. In this regard, the
administration of drinking water supply in Aligarh is no exception. As already pointed out, a number of agencies, organisations or departments viz., Jal Nigam, Jal Sansthan, Gram Panchayats and Rural Development Department are involved in the planning, implementation, execution and maintenance of drinking water supply programme and at no stage, these organisations meet together and chalkout the strategy of the programme in an integrated manner. The Jal Nigam hardly knows the drinking water schemes envisaged and implemented by Rural Development Department for Weaker Sections of the Society and their location.

The income of Aligarh Jal Nigam is not in proportion to the increase in rates of the material used in the Nigam, the bonus of the staffs and the increase of expenditure of the Nigam. There has been a rapid increase in the bonus and the expenditures of the Nigam.

There is no effective supervision on the programmes formulated by the central government. The supervision fees on the internally supported programmes with the cooperation of the state government is also obtained comparatively at reduced rate. In the past the compensation of this difference has been provided sometimes by the government partially but now there is no regular arrangements for this.

The fund obtained from the government for the conducting and maintenance of plans in the rural areas is the least in comparison to the expenditure. As a result, the
compensation for the expenditure is done by the capital investment work and it causes difficulty in the proper maintenance.

2. **Irrigation Area**:

Water is not essential only for the survival of human beings but it is equally essential for the survival of plants and animals. India being basically a country having its economy developing mainly on the basis of agricultural production, water has assumed significant importance for the welfare of its people. In order to give a boost to the food grain production programme, high priority has been given to water resource evaluation, development and management with advent of planning at district level water resource estimate has attained a great importance. Agriculture is a soil-water system. In a soil-water system, it is the water whose presence makes the land green or its absence convert the land desert. Water contributes over 50 percent of irrigation potential created in the country which very well testified the importance of water in the agriculture. Despite of the fact that the government has given top priority in this regard but the situation of irrigation system is as serious as it was in the past. Irrigation system is no exception, it has also some constraints which are responsible for inefficient, unsatisfactory and poor performance of irrigation management, specially tubewell irrigation of Aligarh. The following problems are worth
addressing:

2.1. **Short Power Supply**:- The Power Supply is not commensurate with the increasing demand in quantity or quality. Whereas, it is required 18-20 hours every day for achievement of the operation targets, but its availability is limited to about 6 hours a day. Besides the power supply is uncertain, replete with frequent interruptions, frequency, changes, reverse current and erratic voltage. This is a great contributory factor in the poor performance of the tubewell irrigation.

2.1.2. **Existing Power Tariff on the Basis of Horse Power of the Motor**:- In earlier days charges for electric energy supplied to the tubewells were based on metered power supply. Later on two part tariff was used, one fixed part on the basis of horse power of the motor and the other on the basis of actual consumption of power as metered. At present the above system has been replaced by a tariff based on horse power alone. The rates are:- For state tubewells - Rs. 50/- per H.P. per month and for private tubewells - Rs. 22.50 per H.P. per month. In the context of power shortage and erratic supply there is no justification for levy of tariff on horse power basis. This is causing heavy loss to the irrigation department.

2.2. **Electrical Problems**:- The following are the main hurdles:-

2.2.1. **Non-Availability of Power in Zinc**:- As power
supply is available only for about 6 hours and that too not at predetermined hours and generally during night hours, these are delay in rectifying electrical defects and consequent testing, which leads to additional closure of the tubewells. The cultivators are not sure as to when the power will be available as the time schedule is not adhered to. The power is generally given in the night time and in the absence of the tubewell operator the running of the tubewells is taken over by the farmers. The farmers also do not like watering their fields in night because of insecurity and other reasons. This too leads to closure of tubewells, even if power is available.

2.2.2. Improper Construction/ Maintenance of Cable Connection and Delay in Energisation of New Tubewells:- Laxity in Proper construction of cable connection between the transformer and tubewell and its subsequent maintenance by the State Electricity Board personnel also leads to increased closures. The Electricity Board not acting fast in the energisation of completed tubewells with the result that commissioning of the tubewell and consequent benefits there from are unnecessarily delayed.

2.2.3. Transformer Defects/ Pilferage of Transformer:- Delay in replacing the damaged transformers and pilferage of the transformer are factor which lead to long closures.

2.2.4. Low Voltage, Single Phase Power Supply and Private Connection from Feeder Lines: These are other common causes
of trouble due to which there is increased incidence of motor burning and opening of pump threads. The electricity feeder up to the State tubewells is constructed by the State Electricity Board at the cost of Irrigation Department and therefore no private connection from this feeder is allowed but such connections to private consumers are freely given by the Electricity Board due to which erratic voltage and trappings become more frequent. Also, while strengthening these feeder lines again at the cost of Irrigation Department no credit is given to the Irrigation Department for the material salvaged although the cost of this material was meted out earlier entirely from the funds deposited by Irrigation department. This material is treated by the S.E.B. as its own property and this also adds to the less of revenue.

2.3. **Mechanical Problems:-** These problems are summarised as under:-

2.3.1. **Status of Motor Burning and their repair:-** This is generally due to low voltage, which is often due to sanction of additional private loads on tubewell feeders. Further the repairs to burnt windings of the motors are often sub-standard, which leads to recurrence of burning frequently. The burning could be this institution is rather negligent. The Executive Engineers who do have powers to enquire into the circumstances and punish the negligent operators, are not able to take effective action because of indicipline, political interference and personal security reasons. The
Irrigation department has laid down maximum time schedule for carrying out the repairs of equipment as below:

- Burnt motor: 3 days
- Pump defects: 7 days
- Starter defects: 1 day

But this time schedule is not adhered to, and often there are abnormal delays. The reasons for delay are attributed to laxity in taking the equipment to workshop for repairs, delay in communication and transport and non-availability of spare parts/material to be used in repairs in the workshop. These are also major problems of irrigation department.

2.3.2. Outdated Technology:– The tubewell system of Aligarh is dependent upon manual controls. Even hour meter to record running hours are not installed. For checking reverse running due to phase changes and consequent opening of threads in pumps, etc. appropriate equipment is not in use on a large number of tubewells. Thus there is no automation in this direction when much can be done and new technology including remote control has replaced conventional methods in all fields. This leads to inefficient operation, unnecessary breakages, shut downs, loss of revenue and poor image of tubewells.

2.4. Civil Engineering Defects:– Problems related to civil engineering are discussed as under:

2.4.1. Unsuccessful boring of tubewells:– Instances of unsuccessful boring of tubewells which could not be developed
to give the desired discharge could be found mainly due to lack of proper technical investigation of underground hydrogeology. Also in some cases the tubewell has been located in depression instead on the watershed due to unsatisfactory typographical surveys or due to local influences resulting in the construction of field channels in high embankments and consequent poor performance. Also the alignment and levels of water courses are in many cases defective, which result in wastage of water and inefficient service of the cultivator.

2.4.2. Inefficiency due to improper, construction/maintenance of water courses: The lined and unlined water courses are in a poor state of maintenance on majority of tubewells. The earthwork of which water courses is not properly compacted at construction stage and subsequently during maintenance, there by rendering these susceptible to leakage. Likewise, the sub-grade of lined portions settles on getting well because of improper compaction, causing the lining to sink and consequent damage. In view of scattered nature of works and that too in interior area the material and workmanship in lining remain often sub-standard because of ineffective quality control, pilferage of cement and callousness on the part of contractors. As a matter of fact, the work being comparatively of small magnitude, contractors do not generally take interest. Standard specifications for doing cement masonry are not properly followed and the work suffers from poor mortar as well as use of sub-standard
bricks and sand. The cultivators also plough through the toes of earthen banks of lined water course which consequently gets damaged. The annual maintenance grant for the maintenance of tubewells is not adequate and a greater portion is diverted to the wells equipment leaving a meagre portion for repair of water courses.

2.4.3. Gul Culverts or Syphons:- These are not provided at village/chak road crossings which also leads to Wastage of Water, as the water course are damaged by cattle and transport of agricultured equipments etc.

2.5. Wear and Tear:- The following are the main constraints:-

2.5.1. Lack of Preventive Maintenance:- The preventive maintenance is a well recognised features for efficient upkeep of any equipment or system. Lubricant and servicing alongwith replacement of leaking gaskets, rattling ball bearings and other malfunctioning parts in the pump are few items, which form part of preventive maintenance. The ignorance of preventive maintenance leads to larger damage.

2.5.2. Replacement of Pumping sets, motors and other components: Various machines/components of tubewells are not replaced in time, when these become unserviceable and beyond economical repairs due to lack of funds. This affects efficiency and leads to frequent break downs.
2.6. **Financial Problems**:- They are mainly as follows:-

2.6.1. **Lack of funds for maintenance**:- The maintenance grant is the backbone for the efficient functioning of the whole tubewell scheme. Timely maintenance not only keeps all components serviceable but also cuts increased expenditure that may be required later due to faster deterioration. The maintenance grant was Rs. 1130/- per tubewells in 1968 but it did not get a regular increase based on escalation in prices with the result that the maintenance of tubewells has fallen into disrepairs. The maintenance grant to tubewells sanctioned by the government from 1984-85 is Rs. 4900/- per tubewells. This too is not quite adequate to keep the tubewell machinery running, leaving aside maintenance of water courses and other works, especially when this has to meet the burden of thefts (Rs. 300/-) on average and salary of work-charged mechanics and operators (Rs. 800/- to 1,000/-). Thus the maintenance grant being given has been much below the requirements, with the result that maintenance of capital assets has not been up to the mark. This cumulative neglect may lead to decay of potential and a total loss in time to come.

2.6.2. **Inadequate renewal and replacement reserve fund**:- This fund is created by charging 3.25% annual depreciation on replaceable assets and debiting it to working expenses. However, the actual allotment from the R.R. fund is much less and this also leads to closure.

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2.6.3. **Cash credit Restrictions**: The cash credit is not available according to monthly requirement for maintenance works and salaries and there is uncertainty about the availability of maintenance funds. This disrupts all planned efforts at divisional level. Sometimes, the available cash credit is barely enough to meet the salaries, which have to be paid in preference to the work expenditure. A lot of useful time of officers is also wasted in pursuing release of cash credit at various levels. The cash credit has thus become more of a problem than a tool for financial control.

2.7. **Personnel Management Problems**: The main problems are outlined below:

2.7.1. **Transfer Policy of tubewell mechanics**: The transfers of mechanics is not allowed from one district to another or even from one tubewell division to another because of government policy to avoid displacement of low paid employees to long distance. Thus a man is always imposed and in the context of prevalent atmosphere of indicipline and weaning of authority, there is growing inefficiency.

2.7.2. **Non-availability of Housing Accommodation and Travelling Allowances**: This restrains frequent movements of mechanics to work sites and they also become disinterested in work. Housing accommodation for Junior Engineers is also generally not available at their headquarters due to which
they often keep away from their headquarters. The travelling allowances limits of Junior Engineers are inadequate and this is a handicap in effective touring by these officers sometimes in situations requiring immediate attention.

2.7.3. Absence of Tubewell Operators: The efficient running of tubewells depend on tubewell operators. The operators generally remain absent from tubewells and this gravates the problem especially in the context of uncertain and short power supply and frequent break-downs. The absence of operators also helps anti-social elements in thefts and doing other damages to the tubewells for vested motives. The absence of tubewell operator is also responsible for the development of a variety of mechanical defects.

2.7.4. Lack of Training to the Maintenance Staff: During recent times, advanced technology has overtaken and the earlier system has become rather outdated, time consuming and inefficient. But the workshops of tubewell division are neither equipped with nor the personnel is trained to handle these latest innovations. As a matter of fact, the personnel is not properly trained even to carry out the job efficiently on the existing system.

2.7.5. Wrong Recording and Pilferage in Actual Running Hours of Tubewells: This is largely due to the absence of hour meters on the tubewells. The influential and big cultivator is also not interested in the installation of this meter, as he feels happy without it. The staff as well as
beneficiary connive in this to share mutual benefits at the
cost of loss of revenue to the irrigation department.

2.8. **Law and Order Problems:** They are summarised below:-

2.8.1. **Theft of Equipment:** There is increasing incidence
of theft of transformers, motors, starters and other
accessories on tubewells. The problem is connected with law
and order in general and the collaboration of staff with
anti-social elements. The thefts not only lead to long
closures, but also to difficulty in replacement, because of
lack of maintenance funds and timely availability of
parts/spares.

2.8.2. **Lack of Security of Personnel:** This issue was
focused by a large number of officers. It was pointed out
that in the present atmosphere of growing indiscipline,
political interference, menace of anti-social elements etc.
there is no place for an honest, straightforward, devoted
and conscientious officer. He is under pressure to overlook
the wrong doors or face charges of incompetence and
tactlessness and risk his personal security and promotion.
The operators and mechanics work and live right in the
village and Engineer officers and canal magistrates have to
tour in rural areas and make halts at remotely located
Inspection Houses without any protection.

2.9. **Lack of Coordination between Tubewell and State
Electricity Board:** There is lack of coordination between
tubewell and State Electricity Board personnel in regard to
actual powers given to the feeders and in regard to defective
transformers and cables, due to which tubewell remains closed
even while power is available on the feeder lines.

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References:


