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A) Administration of Lift Irrigation Scheme

The administration of Lift Irrigation Schemes is quite complex. Since, such schemes are organized on the co-operative basis, the Department of Co-operation gets involved. The works of preparation and testing of technical feasibility are undertaken by the Department of Irrigation and Power. While the cropping pattern is suggested by the Department of Agriculture. Thus, the Departments of Agriculture, Irrigation and Power and Co-operation get involved in the administration of these schemes.

1) Department of Co-operation

The administrative set-up of this department can be described in the following stages:

i. Policy-Deciding Authority

The highest authority in this respect is the State Cabinet.

The Ministry of Agriculture and Co-operation is headed by the Minister of the Cabinet status. He clarifies the Cabinet various aspects of development and helps it to come to proper and desired decisions.
ii. **Executive Authority**

The Secretary to the Government of Maharashtra for the Ministry of Agriculture and Co-operation is the chief executive authority responsible for the implementation of the policy decisions taken by the State Cabinet.

iii. **Administrative Authority**

Since September 1965, a separate "Lift Irrigation Cell" has been established in the Department of Co-operation. The Cell comes under the administrative control of the Joint-Registrar, Co-operative Lift Irrigation Schemes.

The Joint Registrar is assisted by two Assistant Registrars, one of which works directly under him while another works in the Poona Division. In this connection, it is noteworthy that there are no Assistant Registrars for other divisions.

The headquarter of the Special Lift Irrigation Cell is located at Poona.

iv. **The Technical Cell**

The Government of Maharashtra appointed a "Special Officer" in 1961, to go through the working of 123 Lift Irrigation Schemes which were virtually stagnant. During the course of inquiry it was revealed that most of these societies could not get proper technical guidance.
and assistance. And, hence, he recommended that a separate "Technical Cell" be established to cater to the growing needs of societies.

Accordingly, the Government of Maharashtra established in 1965, a Technical Cell. The Cell has a headquarter at Poona with the jurisdiction over the State. But the Cell comes under the direct control of the Joint Registrar, Lift Irrigation. The Technical Cell has no sections or the sub-divisions at both the district and division levels.

2) Department of Irrigation and Power

The Department is responsible for deciding the feasibility of Lift Irrigation Schemes and for preparing plans and estimates. The following is the brief account of developments taken place in this department with a special reference to Lift Irrigation Schemes:

i. A Separate Lift Irrigation Circle, 1964

The Government of Maharashtra, December, 1964, established a separate "Lift Irrigation Circle" under the control of the Superintending Engineer with headquarters at Poona with four divisions one each at Bombay, Poona, Nagpur and Aurangabad, and 17 – Sub-divisions spread all over the State.

It helped in the establishment of a number of lift irrigation schemes both in the Co-operative Sector
and local sector. During its working life, the Circle investigated and surveyed about 400 sites and prepared almost equal number of schemes.

The Circle, now, has a very limited skeleton staff. It has ceased to function as an independent organization. The Superintending Engineer, Irrigation Projects and Water Resources Investigation Circle, Poona and the Superintending Engineer, Irrigation Projects, Aurangabad, look after this work (i.e. preparation of lift-irrigation schemes) in their divisions.

ii. The Committee of Experts, 1964

The Committee of Experts was appointed by the Government of Maharashtra, on 14th December, 1964, and is still actively functioning.

It consists of the Superintending Engineer, Irrigation Projects and Water Resources Investigation Circle, Poona, Joint Registrar Co-operative Societies (Lift-Irrigation) and the Joint Director of Agriculture. The Committee scrutinises the preliminary reports, and accords its approval only to those schemes which are technically and economically feasible. Only after an approval from this Committee, final project reports and plans and estimates are prepared, by Irrigation Projects and Water Resources Investigation Circle, in order to undertake execution of schemes.
The Committee acts as a deterrent against the execution of schemes unsound both technically and financially. Against the enhanced chances of implementation of so called "Political Schemes", now-a-days, working without Experts' Committee is next only to impossible.

iii) Issue of Certificate of Availability of Water

No scheme of lift irrigation can be planned without the certificate of Availability of Water. Such certificate needs to be issued by the Executive Engineer, Irrigation and Power Department.

It is ultimate responsibility of the Department of Irrigation and Power to plan for maximum utilization of available water resources. The available water supply, existing demand and planned future development with an allowance for contingencies are the most important factors, considered while planning. Otherwise existing irrigation would get upset.

3) The Cell and the Department of Agriculture

The economic feasibility of the scheme entirely depends upon the crop pattern evolved. The success of the scheme depends upon the practicable crop pattern. It should not be altogether new for the cultivators in the command areas. And, hence, the Cell has to depend upon the Department of Agriculture for evolving such crop pattern.
The State Government Policy

The suggested crop pattern should based upon the availability of water, and the State Government has laid down a policy in this connection. Accordingly, under no circumstances, a permission is granted for the cultivation of perennial crops exceeding 20 per cent of total command area of the scheme. Thus, only when water in a sufficient quantity is available, maximum to 20 per cent of the command area can be brought under perennial crops. The percentage under perennial crops is reduced to 10 per cent of the total command area, if water shortage is suspected or experienced.

Conclusions

The foregoing discussion leads to the following conclusions:

1. Experts' Committee: Only Permanent Link

The Committee of the Experts appointed by the Government of Maharashtra in December, 1964, and which is still functioning effectively, seems to be only permanent link between the Lift Irrigation Technical Cell and the Department of Irrigation and Power.

2. Technical Cell is reduced to Supervisory Organization

The Technical Cell has only to supervise the construction work and issue progress and completion
certificates to societies. Thus, the Technical Cell is reduced to supervisory organization. Consequently, the whole organization has lost its significance.

3. **No Planning**

The Department of Co-operation has no machinery for future planning of the schemes. The cultivators have to take initiative on their own and approach the Department with the request to register their society for lift irrigation scheme.

**Suggestions**

1. **Establishing Separate Technical Organization**

   As seen earlier, the Technical Cell is really ineffective and is carrying out more or less supervisory duties. And, hence, a Separate Technical Organization may be established on the lines of erstwhile full fledged Lift Irrigation Circle.

   The Organization should be fully equipped and well manned so as to work independently. It should preferably be attached to the Department of Co-operation and should have a status of "attached Office". It would reduce the dependence of lift irrigation cell on the Department of Irrigation and Power to get the schemes technically prepared.
2. **Long-term Planning**

It is also possible for the Department of Co-operation to prepare long term plans, with the help of this technical organization, to develop lift irrigation schemes all over the State. During the process of work, the organization would be able to make some preliminary investigations about the tentative sites where the schemes can be constructed with advantage. A phased programme of construction of all schemes at these sites can certainly be undertaken by the Department of Co-operation successfully.

3. **Training and Educating the Machinery**

A presence of such machinery is utmost essential. The machinery should undertake a propaganda amongst the cultivators in the command area of the proposed site of the scheme. The beneficiary farmers would be encouraged to form their co-operative society and to work for early completion of the same. The same machinery should educate the beneficiary cultivators to adopt the changing cropping pattern and to induce them to shift over to wet cultivation practices from dry farming.

At the same time, the propagating machinery can also explain the cultivators not to pressurise for uneconomic and unsound schemes and they would be convinced about adverse effects of implementation of such schemes.
4. **Routing of Schemes**

It is essential to eliminate unnecessary shunting of schemes from one department to another before these are finally sanctioned. And, hence, it can be suggested that a simple and modified routing be adopted instead of the present cumbersome and unnecessary lengthy routine. The new routing can be described as follows:

The prepared schemes would be sent to the Committee of Experts by the Department of Co-operation. After a careful scrutiny these schemes would be sent to the Apex Land Development Bank for consideration. The Bank would in turn send these schemes to the Agricultural Refinance Corporation and the Corporation then would sanction the issue of debentures by the Agricultural Refinance Corporation. It would reduce the time taken to sanction schemes.

The following charts would point out that the suggested routing would eliminate unnecessary and time consuming involvement of the Ministry of Agriculture and Co-operation and the Department of Co-operation, twice and once respectively. It is noteworthy that their elimination from this link would not harm the development of lift irrigation schemes. But on the contrary would speed up the routing and as anticipated would reduce the delay in implementing the schemes.
Agricultural Refinance Corporation  

B) Financing the Lift-Irrigation Schemes

The total cost of the schemes is comprised of two elements, viz., (i) cost of the construction of the scheme, and (ii) the working capital. 25 per cent of the total cost of the scheme is treated as the working capital and the beneficiary cultivators or members of the Society, are supposed to contribute. So far as the cost of construction is concerned the State Government, through
the Land Development Banks, renders the cent per cent financial assistance to the Societies.

Procedure Usually Adopted in Financing these Schemes

It can be described in following stages:

A. Multi-Agency Loan System for Contribution

The Co-ordination Committee of the Agricultural Refinance Corporation ushered the era of multi-agency loan system for raising the required contribution from the members of the Lift Irrigation Society. It recommended that both the Zilla Parishads and the Maharashtra State Co-operative Bank should advance finance in the form of a loan on the following basis:

i. 2.5 per cent

It is expected that this share should be contributed by the members. But in case, it is not possible for them to do the same, they can approach the Zilla Parishad to obtain the financial assistance in the form of redeemable share capital.

ii. 2.5 per cent: Zilla Parishad Contribution

It is a contribution to be made by the Zilla Parishad in the form of non-redeemable share capital. The funds MIN-6 are utilized for this purpose.
iii. **20.0 Per Cent**

It would be advanced by the District Central Co-operative Bank as a medium term loan to the Society. If the District Central Co-operative Bank is unable to provide all the loan, the Zilla Parishad offers the difference out of MIN-6 funds.

This is the present structure of the contributions expected to be raised by the members of the co-operative Societies undertaking lift irrigation schemes.

**B. Sale of Debentures**

After registration of Society, the members prepare "Possessory Mortgage Deeds" mortgaging their lands in favour of the Primary Land Development Bank which sub-mortgages the same deeds with the Apex Land Development Bank. On the strength of these sub-mortgages the Apex Bank, with prior approval of Agricultural Refinance Corporation, floats debentures for raising necessary finance. The debentures are subscribed by the Government of Maharashtra and the Agricultural Refinance Corporation in the ratio of 1:9 respectively. The Apex Bank supplies necessary finance, out of debenture funds thus raised, to Primary Banks which in turn supply the same to Co-operative Societies.
C. Disbursement of Loan in Instalments to Co-operative Society

Usually, the loan is disbursed in three instalments as follows:

a) First Instalment

It is 60 per cent of the estimated cost. The funds are released without any kind of certificate from the technical cell at this stage.

b) Second Instalment

It is released only on the production of the certificate from the technical cell that society has completed 60 per cent of construction and has properly utilized the funds.

c) Third Instalment

It is released on the certificate of completion of 80 per cent of the work of the scheme. The technical officer of Lift-Irrigation Cell of the Department of Co-operation has to issue such certificate.

D. Recovery of Loan

In the event a beneficiary member refuses to repay the loan the society has to take the necessary steps. It has to prepare a proposal of recovery under the Section No. 101 (I) of the Maharashtra Co-operative Societies Act, 1960. The proposal is forwarded to the District Deputy Registrar, who in turn issues a certificate.
of "Recovery of Loan as Arrears of Land Revenue". The District Deputy Registrar sends the certificate to the District Collector. The loan, in due course, is recovered by the Revenue Department as the arrears of the land revenue.

Short comings in the Procedure of Financing the Schemes

The procedure involved in financing the schemes contains the following short comings:

1. **Time Consuming Process**

   It has been experienced that a period of about six years is required from the registration of the Society to the actual commencement of construction of the same. There is always a rise in the cost of labour and material and, hence, the cost of construction increases by passage of time.

Suggestions

1. **Placing More Reliance on Experts' Committee for Technical Feasibility**

   It has been observed that the scheme cleared by the Experts' Committee is checked and rechecked by various technical authorities of the financing agencies. It is a very time consuming job.

   And, hence, it can be suggested that the examination of technical feasibility undertaken by the
Experts' Committee be relied upon by other financing agencies and only the economic feasibility and other financial considerations be attended to. It would reduce time lag and avoid duplication of work.

ii. Development of Mutual Understanding between the Apex Land Development Bank and the Agricultural Refinance Corporation

When the Primary Bank demands funds, the Apex Bank thinks of floating debentures and approaches the Agricultural Refinance Corporation. It indicates that there is no arrangement with both these agencies which can assess future financial requirements and suggest the suitable measures for their provisions.

It can, therefore, be suggested that measures be taken to develop mutual understanding between these agencies, so that these would be able to forecast the probable future financial requirements well in advance.

iii. Standardization of Terms and Conditions imposed by the Agricultural Refinance Corporation

The Agricultural Refinance Corporation should standardise its terms and conditions and other norms generally applied while granting loans. These standardised norms should be circulated amongst the Apex and Primary Land Development Banks. Primary banks would then accept only those proposals which would satisfy these norms.
Thus, only economically feasible proposals would come for the consideration of the Agricultural Refinance Corporation, thereby resulting in reduction in the time taken for sanctioning the projects or schemes oriented finance.

iv. Utilization of Funds of the Nationalized Banks and Commercial Banks

The Chief agency financing the Lift-irrigation schemes is the Agricultural Refinance Corporation. It has also to meet the increasing financial demands for other agricultural developments. Consequently, the Corporation gets heavily pressed and has to arrange for providing the finance.

Under the circumstances, it would be advantageous to utilize the funds available with the Nationalized Banks. These banks have the sure and the large source of finance.

v. Suggestions for Participation of Commercial Banks

The following suggestions would encourage Commercial Banks to participate in financing these schemes –

A) Purchasing Debentures

The nationalized and even other commercial banks can be encouraged to purchase debentures floated by the Apex Land Development Bank. It would reduce the burden of the Agricultural Refinance Corporation which has to contribute 90 per cent of debentures.
B) **Interim Finance by the Group of Lead Banks**

The Apex Land Development Bank can approach the lead banks with the request to arrange for interim finance. And it can refund the amount after the floating and sale of debentures. It would save the time involved in arranging for the required finance.

C) **Fixing the Responsibility on Lead Banks**

The Apex Land Development Bank should classify the schemes regionwise and approach the concerned lead bank with the request to advance loan to Primary Land Development Banks against the guarantee given by the Apex Bank and if necessary, by the State Government. Again, it can also be suggested that the lead banks may be directed to undertake such finance and regionwise responsibility of these banks can also be fixed.

D) **Permitting Commercial Banks to Create Charge on Landed Property**

The Commercial Banks cannot create a charge on the landed property of the members of the Co-operative Societies and, hence, these banks keep away from the field of agricultural financing. Naturally, therefore, only the Co-operative Banks can operate in this field.

And, hence, it can be suggested that the Commercial Banks also be permitted to mortgage the land and create a charge on the landed property of the
cultivators. Once, the difficulty is removed, the banks would be able to lend cultivators on a very large scale. The suggestion, if implemented, would speed up the work of finance and would increase efficiency of financing organizations due to increased competition amongst them.

The World Bank Assistance: Loan Finance

Phasing of Capital Outlay

The project consisting of 175 lift irrigation schemes and costing Rs. 77.29 million, would receive loan finance of the same tune from the World Bank. According to schedule, the project would be completed in a period of three years and the phasing of Capital outlay would be as below:

Table No. 1: Showing Phasing of Capital Outlay

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Schemes</th>
<th>Area in acres under command</th>
<th>Outlay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-72</td>
<td>40</td>
<td>22,800</td>
<td>17.64</td>
</tr>
<tr>
<td>1972-73</td>
<td>60</td>
<td>35,623</td>
<td>26.46</td>
</tr>
<tr>
<td>1973-74</td>
<td>75</td>
<td>41,000</td>
<td>33.19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>175</strong></td>
<td><strong>99,423</strong></td>
<td><strong>77.29</strong></td>
</tr>
</tbody>
</table>

The table No. 2 shows number of schemes of different types, divisionwise and districtwise as on 31st March, 1971.
Out of total 438 schemes there are 344 schemes in Poona Division alone, i.e., 70 per cent schemes are located in one division. Again, out of these 344 schemes in Poona Division, 168 schemes have been located in Kolhapur district, i.e., about 50 per cent schemes have been located in Kolhapur district. While in the districts of Ratnagiri, Bhandara and Chandrapur and Akola have no schemes at all. Again, it is noteworthy that in districts of Aurangabad and Osmanabad there are only two and one schemes respectively. These are the drought zone districts.

The observation leads to a conclusion that there is a heavy concentration in a particular zone of Poona Division and Kolhapur district in particular. Again, a little attention has so far been paid for the development of such schemes in the drought zone districts. This negligence is brought home by the poor development taken place in Aurangabad and Osmanabad districts. Formation of such schemes be encouraged in the drought areas and even distribution be attempted to.

The World Bank has decided to render financial assistance in the construction of such schemes. In this connection, it is noteworthy that up til' now no portion of financial assistance has been received so far from the World Bank.
Table No. 3: Number of Co-operative Lift Irrigation Schemes  
Division - District - Typewise as on 31-3-1971.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>District &amp; Division</th>
<th>Type of Schemes (Number)</th>
<th>Regular</th>
<th>VKS Society</th>
<th>Pure Seva Well</th>
<th>Flow</th>
<th>Dam &amp; Constructions</th>
<th>Sugar Construction</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sangli</td>
<td></td>
<td>14</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>Satara</td>
<td></td>
<td>28</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Poona</td>
<td></td>
<td>30</td>
<td>1</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Ahmednagar</td>
<td></td>
<td>9</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Sholapur</td>
<td></td>
<td>10</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Kolhapur</td>
<td></td>
<td>53</td>
<td>11</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>67</td>
</tr>
</tbody>
</table>

I. POONA  144  14  68  -  1  8  107  2  344

II. BOMBAY  26  3  16  6  1  1  1  1  6  60

III. NAGPUR  6  -  22  -  -  -  -  -  -  28

IV. AURANGABAD  4  -  1  -  -  -  1  -  6

GRAND TOTAL  180  17  107  6  2  9  109  8  438

Source: Bulletin prepared by the Lift Irrigation.
D) Problems Confronted in the Progressive Development of Lift-Irrigation Schemes

The following are the problems faced by these societies:

1. **Shortage of Funds**

   It has been experienced that the beneficiary cultivators do not raise the requisite share capital in full. It is a working capital, required to meet preliminary expenditure. Under the circumstances, it becomes difficult to meet such expenditure. Ultimately, if incurred, such expenditure would have to be met out of the loan funds provided by the Primary Land Mortgage Banks. It is a kind of a misappropriation of funds.

**Suggestions**

The situation can be met with the help of following two suggestions:

i. **No Registration Without Contribution in Full**

   It should be made compulsory on the part of the beneficiary cultivators that unless they pay in full their share in the share capital, their society would not be registered and their scheme also would not be considered. The Government should not hesitate to impose this condition.
ii. Prior Sanction to Preliminary and Secretarial Expenditure

It has also been experienced that such incurred expenditure is both exorbitant and unjustifiable and later has to be sanctioned. Such practices are both unhealthy and unethical.

The only way out, therefore, is to place a strict control over the disbursement of the funds and making payments against only those expenditures for which the prior sanction has been accorded. This work of control over finance and expenditure can be undertaken by an Officer of the Account's status in the Office of the District Deputy Registrar.

2. Cropping Pattern

Economic success of the scheme entirely depends upon the crop pattern proposed to be adopted after execution of the scheme. In this connection it has been experienced that the crop pattern suggested by the societies is quite unrealistic and the cultivators do not follow the crop pattern prescribed by the Department of Agriculture. Consequently, though economically feasible the scheme fails to yield even the desired moderate returns. It is, therefore, essential to adopt the realistic crop pattern suggested by the Department of Agriculture.
3. No Sacrifice, Dependence on Government Aid

No member is ready to sacrifice for the Society even though he has promised to do something. They do not recognize their moral responsibilities in protecting the common interest. Again, for the common cause, no body can be held responsible. But the situation can be remedied on lines suggested below.

i. Not to Rely on the Promises

While preparing estimates for schemes, no reliance be placed on the promises given by the members and include costs of all types of works supposed to be carried out while executing the schemes. It would provide sufficient funds for the schemes.

ii. Insistence on the Execution of Assurances

The cultivator members who promise to supply the building material available with them should be compelled to execute promises given in order to safeguard the common interest. The authority registering the society should obtain such promises in writing and free consent of the members concerned.

The "Shramadan" be made compulsory on the part of the cultivator members. The total value of the Shramadan should not be less than 10 per cent of the total cost of the scheme. If necessary, the act be amended to incorporate Shramadan.
The suggestion, it is hoped, would achieve number of objects enumerated below:

a) The members would have to contribute either in cash or kind.

b) Thereby they would develop affinity for the Society.

c) The compulsory Shramadan would bring them closer.

d) The cost of the scheme would be reduced.

e) The execution of the scheme would be speedy.

4. Inadequate Water Rates and Slow Recovery

The only source of income for the Society is the water charges levied by it. And funds, thus received, would be utilized to repay loans and to meet expenditures incurred on account of administration, repair and maintenance. But it has been observed that the water rates charged are inadequate and recovery of dues from members is quite slow. This disturbs the whole financial set up of the society and payment of instalments towards loans is held in abeyance. In this connection following steps can be suggested:

i. Revising Water Rates

The upward revision of water rates is essential on following grounds:
a) **Need to meet total expenditure**

The water rates be raised to meet both capital and revenue expenditure.

b) **Stage of full utilization of water**

It is expected that the stage of full utilization of water be achieved in a moderate period of three to five years from the time of commencement of irrigation, so that total revenue would increase.

c) **Increased Income**

By passage of time, the cultivators get accustomed to irrigated farming and thereby their income also increases. This additional profit can certainly be taxed by the society and, hence, the water rates should be increased.

The additional proceeds, thus received, can be utilized in two ways, viz., (a) to pay off loans earlier, and (b) to undertake land development operations or for some other purpose which the society thinks fit.

ii. **Strict Steps to Recover dues from Cultivators**

The slow recovery of water charges be stopped by taking strict steps mentioned below:

a) **Preparing Proposal of Recovery**

The Society should prepare proposals of recovery. It would serve as a deterrent to the tendency developing
amongst cultivators to neglect payments of loans received specially from the Government agencies, in spite of the very fact that such loans have really benefited them.

b) **Discontinuing Supply of Water to the Defaulting Members**

The Society has to see that members do not accumulate their dues. The defaulting members should be warned. In case this warning fails, the society should discontinue to supply water to the defaulting members. The punishment should continue till the dues are paid in full.

c) **Confiscating the Property of the Society**

If the majority of members do not pay regularly, it creates difficulties for the Society to make punctual repayment of the Government loan. Under the circumstances, the Government should confiscate the property of the society and by cealing the machinery, stop operations of the scheme until dues are paid in full. Only such drastic action would compel beneficiary cultivators to pay regularly for water charges.

5. **Party Factions OR Groupism Amongst Beneficiary Members**

The harmonious relations generally do not exist amongst members of the Societies. There are party factions and groups amongst them. The posts of office-bearers are made prestige positions and dirty politics is played to
win these posts in elections. Thus, the power politics endangers the security of the society. The following suggestions can be offered to improve the situation:

i. **Appointing Impartial Observer**

The Government may appoint an impartial observer to watch and report developments during elections to the Registrar of Societies.

ii. **Appointing Administrator and Disolving Elected Bodies**

If the power politics has reached a zenith and elected bodies are not in a position to administer the affairs of the Society, the Registrar should, in the larger interest of the members, dissolve the elected bodies. He should then appoint an administrator for the society, to provide clean administration and to protect interest of the society.

6. **Modifications and Deviations in the Project Designs and Incomplete Plans and Estimates**

It has been observed that the beneficiary cultivators suggest modifications in the scheme so often considering their own interest and insist on incorporation of these modifications. Consequently, wide deviations develop in the project designs originally prepared. Again, it has been experienced in some cases that the detailed plans and estimates are not prepared for the
water distribution system in the field. Thus, the plans and estimates prepared are incomplete. Consequently, full implementation of schemes becomes difficult. To remedy the situation, the following suggestions can be made.

i. Not to incorporate Modifications in Finalized Schemes

Once the scheme is finalized, the authorities should not incorporate any modifications except those which are technically essential and which would increase efficiency of the scheme and plans and estimates be revised accordingly.

ii. Prepare Complete Scheme

While preparing a scheme, plans and estimates for water distribution system, should also be prepared. It would help a speedy construction of a scheme and an achievement of full utilization of irrigation potential created.

7. Suggesting Unsuitable Engines

In many cases agricultural engineers suggest quite unsuitable engines, resulting in the failure of schemes.

Under the circumstances, the only thing that can be suggested is that the agricultural engineers concerned should undertake a proper study of technical and
rural conditions existing around the site before suggesting a type of engine to be used. Since, the decision decides the success of the scheme, experts and higher authorities should take active interest in it, and provide the necessary guidance to the agricultural engineers working in the field.

8. **Defective Construction by Private Contractors**

It has been complained that the private contractors are not sincere in their work and the following defects are generally located in their works:

i. **Use of Sub-Standard Building Materials**

The private contractors, use sub-standard building materials. This ultimately reduces the life of the construction and costs of repairs and maintenance increase. Consequently, cultivator-members suffer.

ii. **Avoiding the Use Pipes of required size**

In number of cases, the pipes of required size have not been used by them. The size of pipes is determined by the pumping capacity of the engine installed. The pipes of smaller size do not sustain the pressure of water discharged by the installed engine. It results in the following bad effects:

a) Due to smaller size of the pipe, water cannot reach the tail end portion of the water distribution system in the field.
b) Due to excessive pressure of water, the pipes of small size develop leakages and cracks at the joints and after sometime get broken down. Thus, the whole water distribution system is put out of order.

These defects in the construction can be removed if actions on the following lines are initiated:

i. **Establishing Checking Squads**

   The Government should appoint squads to undertake surprise checking of the construction while it is in progress and whenever major repairs need to be undertaken. This would eliminate the discrepancies involved.

ii. **Reimbursement of Loss**

   The contractors be compelled to reimburse the loss suffered by the Society. The names of such defaulting contractors be strucked out from the list of approved contractors.

iii. **Departmental Enquiry of Officers concerned**

   A departmental enquiry be conducted in case of all those officers who have issued progress and completion certificates to private contractors. Activities of this unholly alliance amounts to misappropriation of public funds. And, hence, a serious action be taken against both of them.
9. **Lack of Technical Know-how**

The district level staff of the Co-operative Department does not possess the necessary minimum technical knowledge. This staff directly comes into contacts with the members of the societies who approach them with their difficulties. But due to lack of technical know-how, the staff cannot help them. And, hence, to avoid this bottleneck, the following suggestions can be considered:

i. **Creating Technical Cell at District Level**

Best way out is to create a technical cell at the district level to provide technical assistance to lift irrigation societies in the district.

ii. **Elementary Course for Non-technical Staff**

The district level non-technical staff should be educated by conducting elementary course to provide them with some technical knowledge.

10. **Improper Maintenance and Repairs**

The machinery and other construction works need proper maintenance and regular repairs. But the beneficiary cultivators do not know how to undertake maintenance and repairs. The scheme does not receive proper attention. To improve the situation, the following suggestions can be considered.
i. Entrusting Maintenance and Repairs to Technical Cell

A Technical Cell be created at the district level to undertake proper maintenance and regular repairs of the schemes and the charges incurred be recovered from the Society concerned.

ii. Training Beneficiary Cultivators

The Technical Cell should conduct small training courses for beneficiary cultivators which would provide them with necessary knowledge to carry out maintenance and repairs. Since, they are supposed to operate the scheme, it would be apt to train them.

E) Conclusions

The foregoing discussion leads to the following conclusions:

1) Ban Cultivation of Sugarcane on Lift Irrigation Schemes

In view of the larger interest of the cultivators it can be concluded that the cultivation of sugarcane be banned of lifts on the following grounds:

i. Unauthorised Cultivation

It has been observed that the sugarcane cultivators cultivate more sugarcane than is authorised. This unauthorised cultivation very rarely gets detected.
ii. Applying Unnecessary Water

Again, the cultivators apply more or excessive water to sugarcane which is a mere waste. It is also very rarely detected.

iii. Sugarcane Requires More Water

The sugarcane requires more water than other crops. The quantity of water required for one acre of sugarcane for a period of one year if diverted and applied for eight months only would be enough to following crops:

   a) Five acres of groundnut and cotton. These are also cash crops, and

   b) Ten acres of wheat, Bajra, Jowar, etc. These are the food crops.

The State of Maharashtra is deficit in food and, hence, cultivation of food crops should be encouraged.

iv. No Water to other Crops

Since, the sugarcane is a perennial crop, even during the hot weather season a sufficient quantity of water needs to be applied. And, hence, out of the available quantity of water, required quantity of water needs to be reserved for sugarcane. Consequently, though other food crops require water during hot weather season, these are not provided with it. Thus, the sugarcane is developed at the cost of food crops.
If, the cultivation of sugarcane is banned as expected, it would yield the following benefits:

i. **Dispersal of Irrigation Benefits**
   
   Instead of utilizing the available water to perennial crops and if diverted to food crops, it would achieve the objects of dispersal of irrigation benefits by following two ways -
   
   a) More area would be brought under irrigation.
   
   b) Areas and crops hitherto unirrigated would get required quantity of water from the scheme.

ii. **Reduction of Intensity and Coverage of Drought**
   
   The dispersal of irrigation benefits would reduce intensity and coverage of droughts.

2) **Treating Lift Irrigation Schemes as Protective Works**
   
   While preparing schemes, the Benefit-Cost-Ratio is calculated. The ratio is expected to be not less than one, otherwise the scheme would not be treated as an economically feasible. The stages of evolution of lift irrigation schemes produce sufficient evidence that schemes were originally started under the Grow More Food Campaign with an intention to increase production of food and fodder crops. Thus, these schemes were originally
started as protective works and certainly not as productive works.

Even at present, the State of Maharashtra is suffering from acute water shortage and near famine conditions resulting in a deficiency in the production of food grains. And, hence, these schemes should be launched as protective works irrespective of benefits that schemes would yield.

3) Encourage Lift Irrigation Schemes in Drought Areas

Formation of schemes needs to be encouraged in drought areas in order to bring relief there.

4) Encourage Progressive Cultivators

The Co-operative Department should encourage the progressive cultivators to guide their fellow cultivators. Even the names of progressive cultivators be sponsored by the Department for State-level prizes awarded annually for exceptional achievements in agriculture. In this connection, examples of progressive cultivators in talukas of Ajara, Gadhinglaj and Hatkanangale in Kolhapur district are noteworthy. There the cultivators have undertaken a study of water requirements of crops, under different climatic conditions, on a scientific basis. They use aluminium and metal pipes as water conveyance and use sprinklers. They are experimenting the cultivation of chicory used in Coffee for a particular flavour and Sago seeds.
5) **Levy Betterment Charges**

The incomes and, hence, profits of cultivator members have certainly increased. And, hence, out of these ever increasing profits, they should contribute for prosperity of their fellow cultivators. The best way out, therefore, is to charge betterment-levy, 50 per cent of water charges paid by cultivators individually during the year. Again, the betterment levy has not been levied so far. And, hence, it would be apt to levy the same.

6) **Linking Marketing of Products with Recovery of Dues**

The recovery of dues has become a very difficult problem in case of agricultural products which are durable in nature e.g. groundnut and almost no difficulty is faced in case of perishable products like sugarcane.

i. **Compulsion on Members to Sale their Produce to Particular Organization**

It should be made compulsory on the part of members to sale their produce to particular organization only and that for within a reasonable period of time. The suggestion aims at the following objectives:

a) It would eliminate speculative tendency of member cultivators.

b) A keen competition is existing amongst co-operative processing and marketing units for purchasing more produce. It would be eliminated.
ii. **Obtain Loan for Immediate Payment**

As soon as the cultivator members supply their produce to co-operative processing or marketing unit, they should be given advance at least 60 per cent against the current market prices. If necessary, the unit should arrange for short term loan from the District Central Co-operative Bank. But under no circumstances, payment against advance be withheld.

iii. **Deduct Dues out of Proceeds**

The processing or marketing unit should first deduct the dues to be paid to Society by members individually out of their proceeds and only the balance be paid to them. The suggestion aims at eliminating the chances of accumulation of dues.

A punctual recovery is essential otherwise the Government would be pressed always with the problem of raising fresh capital and it would not be possible for it to utilise always fresh capital resources for the development of same type of works.